UNIVERSITY OF CAPE COAST

INTEGRATED REPORTING AND FINANCIAL REPORTING QUALITY OF LISTED FIRMS IN GHANA: THE MODERATING ROLE OF THE SUSTAINABLE DEVELOPMENT GOALS REPORTING

KELVIN NII DODOO

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BY

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FEBRUARY 2023

DECLARATION

Candidate's Declaration

I hereby declare that this thesis is the result of my own original research and that no part of it has been presented for another degree in this university or elsewhere.

Candidate's Signature: …………………………...…. Date: ………………..…

Name: Kelvin Nii Dodoo

Supervisor's Declaration

I hereby declare that the preparation and presentation of this thesis was supervised in accordance with the guidelines on supervision of dissertation laid down by the University of Cape Coast.

Supervisor's Signature: ……………………………. Date: …………..……...

Name: Prof. Edward Marfo-Yiadom

ABSTRACT

The study sought to assess the influence of integrated reporting practices on the financial reporting quality of listed firms in Ghana, and the moderating effect of corporate Sustainable Development Goals (SDG) reporting on the relationship between integrated reporting and financial reporting quality of listed in Ghana. The criterion sampling technique was used to select twenty-one (21) listed firms in the banking and manufacturing sectors. Using a quantitative research approach and an explanatory research design, content analysis of the annual reports of selected firms (from 2016 to 2020) was employed as the main data collection instrument as disclosure indexes were developed to extract panel data on the study variables. The data obtained was processed and analyzed using Eviews. Both descriptive (frequencies) and inferential (the System Generalized Method of Moments (GMM) regression panel estimator) methods were employed. The findings demonstrate a high level of adherence (57.14%) of firm annual reports to all three dimensions of the IIRC integrated reporting framework. Integrated reporting and corporate SDG reporting both had a significant positive effect on the financial reporting quality of listed firms, with corporate SDG reporting having a statistically significant moderating effect. Consequently, it was recommended that regulatory authorities create a Ghanaian adaptation of the IIRC integrated reporting framework and mandate the publication of integrated reports for listed firms in Ghana. Management and those in charge of governance of listed firms are also urged to act to enhance integrated reporting practices and SDG disclosures in their corporate reporting policies.

KEY WORDS

Financial reporting quality

Ghana

Integrated reporting

Listed firms in Ghana

Sustainable development goals

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DEDICATION

To my father, Mr Eugene Offei Dodoo; my mother, Millicent Koomson; and siblings.

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FRQ	Financial reporting quality
GMM	Generalised Method of Moments
IIRC	International Integrated Reporting Council
IR	Integrated reporting
IRP	Integrated reporting practices
SDG	Sustainable development goal

CHAPTER ONE

INTRODUCTION

The call on businesses to improve their financial reporting quality to meet the information needs of a wider stakeholder community is ever-increasing. Integrated reporting has been advanced as an innovative corporate reporting tool that provides a holistic approach to corporate reporting and ultimately improves financial reporting quality. Furthermore, the advent of the United Nations' Sustainable Development Goals (SDGs) calls on companies to embed in their mainstream corporate reporting their contributions to SDGs attainment.

Based on the foregoing, this study examined the effect of integrated reporting practices on financial reporting quality of listed entities in Ghana, while also considering significance of corporate SDGs reporting. The background of the study, the statement of the problem, the purpose of the study, the research objectives, the research questions, the research hypotheses, the significance of the study, the limitations, the delimitations, and the organization of the study are all specifically presented in this chapter.

Background to the Study

Reporting is a prominent tool for business firms to communicate with their stakeholders (OECD, 2010). The International Accounting Standards Board (IASB) states that the goal of financial reporting is to give information on the financial status, performance, and changes in financial position of an entity that is helpful to a wide variety of users. Thus, it is salient for firms to ensure sufficient transparency and maintain high corporate financial reporting quality (Romolini et al., 2017). Financial reporting quality is a broad concept that comprises disclosures and other non-financial information in addition to financial information important for decision making included in annual corporate reports.

Financial reporting quality, as defined by Verdi (2006), is the accuracy with which financial reports communicate information about a firm's operations, notably its cash flows, in order to apprise equity investors. Tang et al. (2008) defined financial reporting quality as the degree to which the financial statements give honest and fair information about the fundamental performance and financial condition of a firm. Due to numerous complaints and worries about the quality of corporate financial reporting, organizations are being urged to increase the quality of their financial reporting (Mbawuni, 2019; Mahboub, 2017; Erol & Demirel, 2016).

Key drivers of such criticisms and concerns include the evolution and advancement of accounting theory, expanding stakeholder informational needs, globalisation, the escalation of corporate scandals, and the salient role of companies in achieving the United Nations' Sustainable Development Goals (Nechita et al., 2020; Adams, 2017; Donkor, 2017). Traditional financial indicators that would exclude "non-financial" factors are no longer sufficient for stakeholders and seem less pertinent in the twenty-first century, where social, environmental sustainability, and governance issues are paramount (Klç & Kuzey, 2018). The stakeholder theory requires firms to adopt innovative reporting practices and prepare high quality financial reports that meets the needs of a wide stakeholder group.

Given the widespread calls for higher-quality corporate financial reporting, corporate reporting is evolving with integrated reporting being advanced as the innovative solution and future corporate reporting norm (IIRC, 2013). The Integrated Reporting (IR) Framework, created in 2013 by the International IR Council (IIRC), defines IR as the process of disclosing information regarding a company's value creation activities. According to the IIRC, IR is a succinct elaboration of how a company's strategy, governance, performance, and prospects, when considered in the context of its external environment, contribute to the creation of value over the short, medium, and long term (IIRC, 2013; Klç & Kuzey, 2018).

According to Jhunjhunwala (2014), IR has a structure that allows it to present financial and non-financial data of a company in a more accurate expression, as well as a company's financial and non-financial performance, in a single report to provide all stakeholders with the information they require. Making a case for the adoption of IR, Vitolla and Raimo (2018) identified IR as a logical extension of the corporate reporting movement, able to overcome the shortcomings of traditional reporting and thus, better depict the value creation process of companies. According to Hoque (2017), IR brings financial statements of businesses into alignment with numerous reports inside sustainability reports, environmental reports released under the guise of social responsibility reports.

In the view of Maama, and Mkhize (2020), IR is an innovative and effective corporate reporting practice that embeds both financial and non-financial information in annual reports concisely. In effect, IR can be argued to enhance the financial reporting quality of firms as it improves the quality of information available to relevant stakeholders (Zhou et al., 2017; Roman et al., 2019). According to the IIRC, IR practices of companies should be guided by the IR framework.

The IR framework offers a principle-based approach to corporate reporting, does not specify minimum levels for disclosure of different types of information, and adopts three main "dimensions" to assist organizations in creating integrated reports: "Capitals," which consists of six; "Content Elements," which consists of nine; and the third, "Guiding Principles," which consists of seven (Liu, Jubb & Abhayawansa, 2019). The IR framework states that integrated reports can be prepared either as a separate report, or as a distinct, prominent, and easily accessible component of another report or communication. Any report that purports to be an integrated report must adhere to the three dimensions stated in the IR framework.

Numerous empirical studies have examined IIRC's claim that IR can enhance the quality of financial reporting for corporations, with the results yielding contradictory conclusions. Nevertheless, majority of these studies highlight the positive impact of IR on financial reporting quality, advocating its ability to provide useful information to capital markets, reduce corporate cost of debt and enhance corporate financial performance (Liu, Jubb & Abhayawansa, 2019; Kılıç & Kuzey, 2018; Vitolla & Raimo, 2018; Zhou et al., 2017). For instance, Cortesi and Vena (2019) studied whether IR was able to enhance corporate disclosure quality and reduce information asymmetry. They found that IR improves disclosure quality and reduces information asymmetry. In a bid to identify emerging factors for IR from an institutional perspective, Dragu and Tudor (2013), argued that IR can help attain corporate reporting transparency.

Vitolla and Raimo (2018) studied benefits and reasons for the adoption of IR and consistent with the study of Hoque (2017), the potential of IR improving financial reporting quality was advanced. In the African context, Agbetunde et al. (2020). Agbetunde et al. (2020) examined the effect of IR on the fundamental qualitative characteristics of financial statements of Nigerian Listed Companies. Their findings revealed that IR significantly improved the fundamental qualitative characteristics of the financial statements of Nigerian listed companies. In another context, Adegboyegun et al. (2020) discovered that IR has a considerable impact on long-term firm performance in addition to raising the quality of financial reporting for businesses.

Notwithstanding the aforementioned positive effects of IR on financial reporting quality, some studies have produced contradictory results regarding the ability of IR practices to influence the financial reporting quality of firms that use IR practices (Pistoni et al., 2018; Schütte et al., 2017). For instance, Schütte et al. (2017), having assessed the long-term effect of IR on the quality of information provided by four South African companies over a three-year period (2012–2014), revealed uncertainties regarding the ability of IR to improve the quality of information.

Critics of the findings of Schütte et al. (2017) argue that generalisations cannot be made from their work because the size of the sample prevents the possibility of generalizing the findings of this study to other companies and industries. In another context, Pistoni et al., (2018) having assessed 116 firms that use the IR framework found that the reporting quality of selected firms was low. These inconsistencies in findings on the effect of IR on financial reporting quality of firms could be attributed to certain factors (such as corporate SDG reporting) that could moderate the said relationship. For instance, the inclusion of SDG targets in corporate information will further enhance the quality of financial reporting (Konstantinos & Dimitrios 2016) and influence the IR-financial reporting quality nexus.

Corporate SDG reporting emerged after the launch of the UN's SDGs (17 goals) as part of its Agenda 2030 for sustainable development. The advent of the SDGs heightened the call for improved corporate reporting quality as businesses were deemed to play essential role in advancing the SDGs. UNCTAD (2015) emphasizes the importance of corporate SDG reporting in achieving the SDGs, contending that corporate SDG reporting may enrich and expand SDGs monitoring mechanisms by supplying the tools needed to evaluate businesses' effects on economic, environmental, and social sustainability.

Izzo et al. (2020) defined corporate SDG reporting operationally as the voluntary disclosure of a firm's contribution towards SDG attainment in the firm's corporate reports. Companies can help achieve the SDGs, for instance, by adhering to widely accepted principles of diversity, labor, the environment, and anti-corruption in their everyday business operations and by disclosing the results of these principles in their annual reports. While some goals will only have a marginal impact on how businesses operate, some goals, such as Goal 5—gender equality; Goal 8—decent work and economic growth; Goal 9—industry, innovation, and infrastructure; and Goal 12—responsible consumption and production—are some of the goals that businesses can incorporate into their day-to-day workings and build long-term future strategies upon (Tyagi, 2021).

Calls by various stakeholders create pressure on companies to report their contributions to the SDGs, and while companies can choose to ignore the external pressure, there is a risk of losing legitimacy (Silva, 2021). Legitimacy theory is one of the theories that advances the need for corporate SDG reporting. According to this theory, a company must have social and environmental legitimacy to operate its business, and it typically achieves this by voluntarily publishing reports of information on activities perceived to be expected by communities where the entity operates (Erin et al., 2022).

Businesses benefit from efforts to advance the SDGs in general, but there are some particular benefits that come with integrating, supporting, and reporting actions that are relevant to the SDGs. According to Tyagi (2021), reporting on the SDGs helps businesses gain the trust of their stakeholders by improving the quality of their financial reporting, attracting green and sustainable financing, evaluating the effects of sustainability risk factors, and fostering sustainable innovation. Corporate SDG reporting can reroute investment flows to maximize value creation and improve awareness of how business operations affect sustainable development (Silva, 2021). It can help businesses find opportunities, lower risks, and deliver long-term, cutting-edge innovations and solutions to address sustainable development issues (Adams, 2017).

Carpentier and Rodriguez (2019) posited that corporate SDG reporting and disclosures can help government officials, businesses, and civil society understand the significant issues that must be overcome in order to achieve the SDGs by 2030, hence, SDG reporting and disclosures should be integrated into mainstream corporate reporting practices. In an analysis of the relationship between SDGs disclosure and firm values, Cahyaningtyas et al., (2020) found that SDGs disclosures is positively associated with company value. Also, findings of Jaff et al., (2021) reveal that embedding SDG reporting into mainstream corporate reporting in a comprehensive manner leads to improvement in financial reporting quality of corporations.

A company acquires legitimacy status when it reports on corporate SDGs at a high level (Silva, 2021) and this improves the influence that reporting the firm's value creation story has on its financial reporting quality (Adams, 2017). In contrast, having low levels of SDG disclosures weakens the impact that reporting a firm's value creation has on its financial reporting quality due to the fact that the firm loses its legitimacy status. With IR being the chief tool for reporting a firm's value creation story, it can be thus inferred that high levels of corporate SDG reporting strengthens the impact of IR on the financial reporting quality of listed firms, and vice versa (Konstantinos & Dimitrios 2016).

Inferences from the above highlight that the legitimacy theory motivates corporate SDG reporting (Erin et al., 2022) which in turn exerts positive influence on the financial reporting quality of firms embedding SDG reporting in their mainstream reporting model (Jaff et al., 2021). Also, the above highlight that corporate SDG reporting can moderate the relationship between IR and financial reporting quality (Konstantinos & Dimitrios 2016). Whilst this assertion is empirically accepted (Adams, 2017), there is paucity of empirical studies to back it.

Notwithstanding the numerous studies conducted on IR practices in developed countries, very few studies have been carried out on the IR practices of firms in Ghana, despite IR being advanced as the solution for the much-needed improvement in financial reporting quality of listed firms in Ghana (Maama & Appiah, 2019; Mbawuni, 2019). This reiterates the assertion of Cortesi and Vena, 2019 that the majority of the research on the effects of IR is still restricted to contexts where adoption is required (like South Africa), with little research being conducted in contexts where adoption is voluntary (like Ghana). Similarly, there are not many studies on corporate SDG reporting in developing countries, and the Ghanaian case is no exception (Maama, & Mkhize, 2020).

Donkor (2017) studied the development of IR in Ghana paying attention to the perception of accounting practitioners in Ghana, and revealed limited diffusion of IR implying that some of these challenges stem from the thoughts, experiences and competencies of the practitioners. Additionally, Maama and Mkhize (2020), who looked into the IR practices of listed companies on the Ghanaian Stock Exchange, found that the companies strove to fulfil their strategic goals by disclosing information that portrayed them favourably.

They concluded that businesses' IR practices were tactics for enhancing their own public perceptions and winning public acceptability. Also, they called for further studies on IR in Ghana due to a dearth of studies on IR in Ghana. Given the efficacy of IR to enhance the financial reporting quality of firms as posited in the literature, it is imperative to conduct further studies on this relationship in a Ghanaian context to help contribute to the call for IR as a solution to corporate reporting quality concerns. Also, there is a modicum of studies on corporate SDG reporting in Ghana as Maama, and

Mkhize (2020) call on businesses to report on the environmental and social impact of their activities.

Statement of the Problem

Businesses are being urged to enhance the quality of their financial reporting as a result of concerns raised about the financial reporting of firms by stakeholders (Mahboub, 2017; Erol & Demirel, 2016). In Ghana, studies have shown that stakeholders and investors are increasingly expecting businesses and organizations to report on their value-creation efforts and environmental impacts (Maama, & Mkhize, 2020). Ackah and Lamptey (2017) and Maama and Appiah (2019) proposed that corporate reporting in Ghana should advance and mature as understanding grows that the prospects and conditions plaguing the long-term worth of organizations are much broader than the information available within the financial statements. Mbawuni (2019) concluded after evaluating the financial reporting quality of Ghana's listed firms that it needs to be significantly improved.

The IIRC promoted IR as an innovative method to enhance the quality of corporate financial reporting after releasing the IR framework in December 2013 to guide IR practices of corporations (IIRC, 2013). This development has been empirically evaluated in the body of research, albeit with mixed findings. Some studies (Agbetunde et al., 2020; Vitola & Raimo, 2018; Hoque, 2017) reveal that IR practices exert a significant positive effect on the financial reporting quality of the firms studied. In contrast, other studies (Pistoni et al., 2018; Schütte et al., 2017) have criticized IR's ability to affect the quality of companies' financial reporting. The variations in the effect of IR on firms' financial reporting quality shown above may be the result of various factors that could moderate the impact of IR practices on firms' financial reporting quality.

Legitimacy theory averts that the quest to gain legitimacy affects the behaviour of companies driving them into actions that affect the quality of reports issued (Deegan, 2004). Legitimacy theory motivates firms to report on their contribution towards SDG attainment (Erin et al., 2022), which in turn strengthens the impact of reporting a firm’s value creation story on the quality of financial reports issued (Konstantinos & Dimitrios, 2016). At high levels of corporate SDG reporting, a firm gains legitimacy status (Silva, 2021) and this strengthens the impact that reporting the firm’s value creation story has on its financial reporting quality (Adams, 2017). In contrast, having low levels of SDG disclosures weakens the impact that reporting a firm’s value creation has on its financial reporting quality due to the fact that the firm loses its legitimacy status.

Given that IR is predominantly focused on reporting a firm’s value creation story to relevant stakeholders, it can be inferred that high levels of corporate SDG reporting strengthens the impact of IR on the financial reporting quality of firms, and low levels of SDG disclosures weakens the impact of IR on financial reporting quality of firms. As such, entities reporting on their contributions to SDGs will witness a stronger effect of IR on their financial reporting quality relative to entities that do not report on SDGs (Konstantinos & Dimitrios 2016). Whilst this assertion is empirically accepted (Adams, 2017), there is paucity of empirical studies on the moderating effect of corporate SDG reporting on the relationship between IR and financial reporting quality of firms. It is thus unsurprising that Silva (2021) calls for further studies on corporate contributions to the SDGs and its impacts.

Furthermore, despite calls for changes in corporate reporting practices (Maama & Appiah, 2019), and the need for significant improvement in the financial reporting quality of listed Ghanaian firms (Mbawuni, 2019) to help meet expanding stakeholder needs, there is a modicum of empirical evidence on the effect of IR on corporate financial reporting quality among Ghanaian listed firms. Maama and Mkhize (2020) called for further studies on IR in the Ghanaian context. Taking these into account, the present study sought to assess the effect of IR on financial reporting quality of listed firms in Ghana, giving cognisance of the moderating role of sustainable development goals in the IR-financial reporting quality nexus.

Purpose of the Study

The main purpose of the study was to assess the effect of integrated reporting on the financial reporting quality of listed firms in Ghana, and the moderating effect of corporate SDG reporting on the relationship between integrated reporting and financial reporting quality of listed firms in Ghana.

Research Objectives

The study sought to achieve the following specific objectives:

1. To investigate the adherence level of annual reports of listed firms to all three dimensions of the IIRC integrated reporting framework.
2. To determine the effect of integrated reporting practices on the financial reporting quality of listed firms.
3. To analyse the effect of corporate SDG reporting on the financial reporting quality of listed firms.

4. To analyse the moderating role of corporate SDGs reporting in the relationship between integrated reporting and financial reporting quality of listed firms.

Research Question

1. What is the adherence level of annual reports of listed firms to all three dimensions (i.e., capitals, content elements and guiding principles) of the IIRC integrated reporting framework?
2. How does integrated reporting practices affect the financial reporting quality of listed firms?
3. What is the effect of corporate SDG reporting on the financial reporting quality of listed firms?
4. What is the moderating role of SDGs reporting in the relationship between integrated reporting practices and financial reporting quality of listed firms?

Research Hypotheses

The following hypotheses were developed in accordance with the study's objectives and tested:

1. H_0: Integrated reporting practices have no significant positive effect on financial reporting quality of listed firms.

   H_1: Integrated reporting practices have significant positive effect on financial reporting quality of listed firms.

2. H_0: Corporate SDG reporting does not have any significant positive effect on financial reporting quality of listed firms.

   H_2: Corporate SDG reporting have significant positive effect on financial reporting quality of listed firms.

3. H_0: Corporate SDG reporting does not moderate the relationship between integrated reporting practices and financial reporting quality of listed firms.

   H_3. Corporate SDG reporting moderates the relationship between integrated reporting practices and financial reporting quality of listed firms.

Significance of the Study

As far as the researcher is aware, no study has attempted to investigate the impact of IR on the financial reporting quality of corporations while taking into account the moderating effect of corporate SDG reporting. This is where the study's innovation resides. The study's findings would provide important information about the mentioned relationship. The study would also add to the scant knowledge on IR in Ghana. The study's findings would also make it possible for government, regulators, and professional organisations to lead the charge for increased adoption of IR as a corporate reporting model for companies. Finally, the study would provide insightful information to evaluate Ghana's progress toward achieving the goals of the UN's Agenda 2030 and would also strengthen the appeal for Ghanaian businesses to incorporate the SDGs into their primary corporate strategies and reporting practices.

Delimitations of the Study

The study used secondary data, a quantitative research approach, and an explanatory research design. All the companies listed on the Ghana Stock Exchange (GSE) comprised the study's population. The annual reports (from 2016 to 2020) of the selected listed corporations served as the secondary data source for this study. Integrated reporting practices (IRP) served as the study's independent variable, corporate SDG reporting served as the moderating variable, and listed companies' financial reporting quality served as the study's dependent variable. Themes (unit of analysis) of the data (annual reports) were categorized, sub-categorized, and coded using content analysis (systematic method of categorizing text context, enumerating its form, and drawing conclusions about text meaning) via disclosure indexes created for the variables under consideration. A disclosure index is a research tool that consists of a number of pre-selected things used to gauge the degree of disclosure in a particular situation. It is commonly regarded as the most accurate way to gauge the level of disclosure to which a disclosure is required (Liu et al., 2019).

Limitations of the Study

The study focused on only listed commercial banks and manufacturing firms. This pose a limitation on the study as firms in other sectors were not used for the study. Commercial banks are the main controllers of the financial system in Ghana operating as one of the main pillars for economic development, performing financial intermediation role (Opoku, 2011) and advancing the SDGs (Adams, 2017). There is greater pressure on banks to produce high-quality reports since actors in all facets of the economy rely on them to make financial decisions Jaff et al., (2021). Additionally, the manufacturing industry's operations have a considerable negative social and environmental impact (Bour et al., 2019) which has prompted calls for more disclosure and reporting on the environmental practices of manufacturing companies.

Further, not all seventeen SDGs will be selected for the study as the study was limited to eleven SDGs emphasized in United Nations Conference on Trade and Development (UNCTAD) list of core indicators for SDGs in company reporting. Lastly, disclosure items on the integrated reporting practices of firms assigned scores of “0” – where a given disclosure item is absent and “1” – where a given disclosure is reported. This did not make room for measuring the quality of disclosure made. Finally, by using secondary data, the study could not seek opinion of financial report preparers to obtain further insight on other pertinent issues IR, corporate SDGs and financial reporting quality of their firms.

Definition of Terms

Integrated reporting practices: Reporting practices of succinctly including both financial and non-financial information in a firm’s annual report for a reporting period in order to communicate the firm’s value creation story.

Corporate SDG reporting: Embedding firms’ contribution(s) towards SDGs attainment in annual reports of firms.

Financial reporting quality: The extent to which annual reports of companies adheres to the qualitative characteristics of useful financial information set out in the International Accounting Standards Board (IASB) conceptual framework for financial reporting.

Organization of the Study

Five chapters made up the organization of this study. The study's background, problem statement, purpose, objectives, research questions, research hypothesis, significance of the study, delimitations, and limitations were all covered in chapter one. The review of relevant literature on the variables under consideration was addressed in Chapter two of the study. The research methods used for the study were dealt with in Chapter three. The analysis, presentation, and discussion of research findings and their applicability to literature and empirical data were the key themes of chapter four. The summary, key findings, recommendations, and suggestions for additional study and applications were all presented in the final chapter.

CHAPTER TWO

LITERATURE REVIEW

Introduction

The goal of the study was to investigate the impact of integrated reporting on the financial reporting quality of listed companies in Ghana as well as the moderating impact of corporate SDG reporting on this relationship. Literatures from previous studies that are of considerable relevance to this study are being examined in this chapter to support the study. The first section reviews theories that support the study. The second section presents the various concepts underlying the key variables of the study. There is also an empirical review in the third part whilst the fourth and final parts presents the conceptual framework and chapter summary respectively.

Theoretical Review

Theoretical framework is a collection of interconnected ideas of study and models that guide research, establish what should be examined, and their statistical relationship. Theoretical frameworks are clearly critical to the academic study by providing vision and direction for the study. Since integrated reporting aims at benefiting all stakeholders interest through the provision of information about a firm's value creation process overtime, the study makes use of the stakeholder theory and the legitimacy theory of voluntary disclosures.

Stakeholder theory

Stakeholder theory asserts that businesses have a large number of stakeholders, which include individuals, groups of people, institutions, and organizations that are legitimately associated with the company (Camilleri

2018). Multiple major stakeholders, including those involved in investing, campaigning, and procurement, have varied expectations and viewpoints as a result of this, (Carrol, 1999). According to Ioana and Adriana (2014), stakeholders need reliable and pertinent non-financial information to aid in their decision-making processes. As a result, businesses and organizations must provide this information. Stakeholder groups should thus be managed in the company's best interest and as such, organizations' information disclosure practices might alter depending on their views of stakeholders' influence (Deegan, 2019; Livesey & Kearins, 2002).

Stakeholder theory has gained traction as more studies understand that a company's activities have an impact on the external environment, necessitating accountability to a broader audience than just its shareholders (Maama & Mkhize, 2020). Furthermore, because a company has many stakeholders, its reporting practice cannot be considered valuable unless it is focused on the needs of all of the stakeholders on whom the accounting firm has an impact (Shauki, 2011). This emphasizes the need to consider the needs and preferences of stakeholders when it comes to information disclosure.

Inferences from the above reveal that there is a natural link between the concepts of integrated reporting, sustainable development goals, financial reporting quality, and stakeholders of businesses. This is because the idea of a stakeholder personalizes social and environmental duties by identifying the specific groups or individuals that companies must consider when deciding how to disclose business information. Seeking to meet the diverse information needs of multiple stakeholders through integrated reporting will ultimately lead to the overall improvement in the financial reporting quality of firms.

Legitimacy theory

Legitimacy theory is described as a generalized view or assumption that certain socially built systems of rules, values, beliefs, and definitions render an entity's activities acceptable, legitimate, or appropriate (Suchman, 1995). Legitimacy theory is built on the same premise as social contract theory: that there is a social contract between society and an organization. The importance of an organization's dependency on its surroundings, the varying social expectations, and an organization's endeavor to explain its existence in society through the legitimization of its operations are highlighted by the legitimacy theory (Newson & Deegan 2002; Haider & Nishitani 2020). Because society grants businesses the right to own and use natural resources and to employ people, a company must have the consent of society in order to exist. As a result, a company must eventually answer to society for how it behaves and what it does (Deegan, 2004).

In this context, legitimacy denotes that businesses usually operate to appear responsible by doing actions that benefit society, and as a result, they implement methods to this end (Lai et al. 2018; Beretta et al. 2019). These legitimacy strategies include educating society on the organization's objective, altering society's perception of the business's operations, deflecting or controlling society's attention, and altering society's expectations. This implies that businesses are more likely to share information about their operations, particularly those including social and environmental factors, when society expects it of them.

According to legitimacy theory, an organization must take into account the rights of the general public as well as investor interests. If the company does not adhere to public standards, punitive actions in the form of restrictions on its operations, resources, and product demand may be implemented (Shehata, 2014). The legitimacy theory has been utilized in numerous empirical studies on social and environmental reporting to make the case that corporate disclosures and public expectations are related (Deegan 2004). Because the legitimacy theory is founded on the public's perception of a corporation, management is compelled to disclose information that might alter the public's perception of it. The annual report has been identified as a credible source of information (Dyball, 1998 as cited in Shehata, 2014).

Legitimisation can take place through both mandatory disclosures, such as those made in financial statements due to regulations, and voluntary disclosures, such as those made in other sections of the annual report (Magness, 2006; Lightstone & Driscoll, 2008; Shehata, 2014). A growing number of studies on legitimacy theory suggests that integrated reporting is mostly an avenue to achieve the objectives of a firm, (Maama & Mkhize, 2020). Certain studies appear to indicate a legitimating purpose of integrated reporting. Choi et al. (2013) reported that the tendency to adopt integrated reporting practices is also linked to the general emphasis society places on the reporting companies. Plumlee et al. (2015) and Rezaee and Tuo (2019) found that in response to greater media scrutiny, businesses disclose more information on ethical business practices.

Shehata (2014) in a study posited legitimacy theory as a major theory and determinant of voluntary disclosures in corporate reporting. In their study, Maama and Mkhize (2020) concluded that the integrated reporting practices of listed firms on the Ghana Stock Exchange were influenced and oriented by both the stakeholder and legitimacy theory. The above findings from extant literature reveal that legitimacy theory advances the need for firms to adopt integrated reporting practices in a bid to gain legitimacy status. This is deemed appropriate for the study's hypotheses especially hypothesis one, which advocates that integrated reporting positively influences corporate financial reporting quality.

Furtherance to the above, the legitimacy theory is one of the major theories that advances the need for corporate SDG reporting (Silva, 2021). The external pressure that key stakeholders place on businesses to report their contributions to the SDGs provides the platform for firms that comply to gain legitimacy status. Companies that choose to ignore the need to report on SDGs risk losing legitimacy (Silva, 2021). In response to these pressures, companies seek social and environmental legitimacy by voluntarily disclosing SDG related activities in their annual reports (Erin et al., 2022). Findings of Jaff et al., (2021) indicate that embedding SDG reporting into mainstream corporate reporting in a comprehensive manner leads to improvement in financial reporting quality of a firm.

Also, at high levels of corporate SDG reporting, a firm gains legitimacy status (Silva, 2021) and this strengthens the impact that reporting the firm's value creation story has on its financial reporting quality (Adams, 2017). Given that integrated reporting is predominantly focused on reporting a firm's value creation story to relevant stakeholders, it can be inferred that high levels of corporate SDG reporting strengthens the impact of integrated reporting on the financial reporting quality of firms, and low levels of SDG disclosures weakens the impact of integrated reporting on financial reporting quality of firms (Adams, 2017; Konstantinos & Dimitrios 2016). Based on the foregoing, the legitimacy theory is deemed appropriate in for achieving the second and third hypothesis of the study.

Conceptual Review

The categorization and description of concepts pertinent to the study is the aim of the conceptual review. Relevant concepts and developments on integrated reporting, corporate SDG reporting and financial reporting quality are discussed.

Integrated reporting

The concept of integrated reporting has been defined from diverse perspectives in literature, including integrated reporting being a corporate reporting tool, norm, approach, process, and practice. According to the IIRC, integrated reporting is a concise communication about how an organization's strategy, governance, performance, and prospects, in the context of its external environment, leads to the creation of value over the short, medium, and long term (IIRC, 2013; Klç & Kuzey, 2018). The integrated reporting framework issued by the IIRC in 2013 describes integrated reporting as the process of providing information about a firm's value generation activities (Maama & Mkhize, 2020). Notwithstanding the above, extant literature argues that the concept of integrated reporting goes beyond the definition provided by the IIRC (Maama & Mkhize, 2020).

Integrated reporting is the process by which businesses inform their stakeholders on the value creation initiatives connected to their economic, social, environmental, and governance sustainability initiatives (Eccles et al. 2015; Casonato et al., 2019). Studies by Cheng et al. (2019) and De Villiers et al. (2017) conceptualized integrated reporting as a reporting practice that communicates the relationship between a firm and its physical environment and society, including disclosures on community involvement, the environment, human and intellectual capital, governance practice, risks, energy, and product safety. In their study, Vitolla and Raimo (2018) defined integrated reporting, as an innovative and effective reporting tool that integrates both financial and non-financial information.

According to Abeysekera (2013), integrated reporting aims to unify the reporting of many organizational activities on a single platform with a single goal. This is in line with Krzus' (2011) claim that the fundamental idea of integrated reporting is to provide a single report that fully integrates a company's financial and non-financial information (including environmental, social, governance, and intangibles) data. Integrated reporting, in the opinion of Roman et al. (2019), is a corporate reporting strategy that promotes an effective approach to corporate reporting while simultaneously trying to improve the quality of information made available to financial capital providers.

Maama and Mkhize (2020) defined integrated reporting is an innovative and effective corporate reporting practice that embeds both financial non-financial information in annual reports concisely. Examining the integrated reporting practices of listed firms on the Ghana Stock Exchange, Maama and Mkhize (2020) conceptualized integrated reporting as the inclusion of social and environmental sustainability information in the annual reports of companies. Drawing from the above conceptual definitions of integrated reporting in literature, the present study operationalizes integrated reporting as the reporting practices of succinctly including both financial and non-financial information in a firm's annual report for a reporting period in order to communicate the firm's value creation story.

Development of integrated reporting

Despite being acknowledged globally as the leading organization for the advancement of integrated reporting, the IIRC did not invent integrated reporting (de Villiers et al., 2017). Before the IIRC was established in 2013, integrated reporting was already being considered and developed as a reporting practice. For instance, PwC launched its "Value Reporting Framework" in 1999, which started the conversation on Integrated Reporting. The first integrated report was published in 2002 by Novozymes, a Danish enzyme company that was spun out from the healthcare giant Novo Nordisk. Soon after, Novo Nordisk released its own integrated report (de Villiers et al., 2017). The path that led to the introduction of integrated reporting has been very long (dating back to the late 1990s and early 2000s), and several are the antecedents of this practice (Dumay et al., 2016).

Integrated reporting, according to Liu et al. (2019), emerged out of a desire to help financial capital providers understand organisational value drivers and how they interact with the business models of the organisations in the context of the business strategy and external environment to create value. It traces its roots to the increasing stakeholder demand for inclusion of non-financial information on environmental, social, sustainability and governance, in annual reports of companies (Vitolla & Raimo, 2018). Literature posits that the advent of integrated reporting is preceded by three major frameworks: the balance scorecard, the triple bottom line, and sustainability reporting (Nixon &

Burns, 2012; Giovannoni & Maraghini, 2013; Vitolla & Raimo, 2018). These tools, according to Vitolla and Raimo (2018) failed to present a comprehensive picture of the company's performance.

Following the global financial crisis in the early twentieth century, traditional accounting and reporting models were scrutinized more closely, as their flaws were implicated in the catastrophe and were often blamed for it. As a result, there have been greater calls for further integration of financial and non-financial reporting (Liu et al., 2019). To this end, the GRI and the Prince's Accounting for Sustainability Project established the IIRC in 2010 with the help of businesses, investors, auditors, standard-setters, and non-governmental organizations. The IIRC's goal is to create a Framework that is universally recognized and integrates financial and non-financial information. The objective was to provide the groundwork for the design of a new corporate communication model that would effectively capture the value generation process (Liu et al., 2019).

Integrated reporting has garnered interest at all levels worldwide since the IIRC framework was released in 2013, including from regulators, businesses, preparers, and investors. Integrated reporting is gradually advancing globally and is being adopted and implemented as a corporate reporting norm. According to Klç & Kuzey (2018), South Africa was the first nation to demand an integrated report from listed firms. Additionally, due to the promotion of the integrated reporting framework through governmental legislation and Stock Exchange standards, countries like South Africa, The Netherlands, Brazil, and Australia have emerged as global leaders in the implementation of integrated reporting (Klç & Kuzey, 2018). Numerous businesses have long reported on some of the topics specified for disclosure under the integrated reporting framework without necessarily referring to those reports as integrated reports in their annual reports.

As of March 2017, the IIRC listed 477 organisations the reports of which referred to the IIRC or the IR Framework, (Liu et al., 2019). According to Blasco and King (2017), fourteen percent of the world's top two hundred and fifty firms (G250 companies) labelled their reports as "integrated" in 2017. They also reveal that between 2015 and 2017, the number of self-declared integrated reports produced in some nations increased by more than fifteen percent. The IIRC is now promoting integrated reporting through road shows to colleges, regulators, and businesses. On numerous boards and activities, it also includes CEOs and other powerful individuals and organizations.

According to de Villiers et al. (2017), the rapid adoption of integrated reporting has been matched by an increase in scholarly literature. Despite the worldwide boom in integrated reporting literature, the Ghanaian situation is the polar opposite (Donkor, 2017; Maama & Mkhize, 2020). Regardless of the aforementioned, the IIRC's integrated reporting framework serves as a guide for the implementation and practice of integrated reporting. As a result, empirical research on the integrated reporting practices of businesses have operationalized the IIRC's integrated reporting framework (Klç & Kuzey, 2018; Maama & Mkhize, 2020).

Integrated reporting framework

The IIRC in 2013 issued the integrated reporting framework to guide integrated reporting adoption and implementation (Liu et al., 2019; Maama &

Mkhize, 2020). According to the integrated reporting framework, integrated reporting is "a more coherent and efficient approach to corporate reporting that draws on different reporting strands and communicates the full range of factors that materially affect the ability of an organization to create value over time" and is intended to improve "accountability and stewardship for the broad base of capitals [...] and promote understanding of their interdependencies" (IIRC, 2013 p. 2). Instead of establishing a list of mandatory disclosure items, the integrated reporting framework offers a principles-based approach to directing corporate reporting practices. It does not specify the minimal thresholds at which different types of information must be published.

The integrated reporting framework's goal is to provide an organized "methodology" through which a company can explain how it creates value throughout the short-, medium-, and long-terms. It encourages the integration of both financial and non-financial information in a thorough manner. In an effort to provide a more comprehensive reporting format, Klç and Kuzey (2018) contend that an integrated reporting framework presents a chance to recognise the links between the financial, social, and environmental components of corporate success.

Corporate integrated reporting practices and the preparation of annual reports (integrated reports) are guided by the integrated reporting framework. An integrated report is one that offers sufficient details and demonstrates connections between the capitals (financial, manufactured, intellectual, human, social, and natural), the external environment, governance, business model, strategy and resource allocation, performance, and future prospects (Liu et al., 2019). The integrated reporting framework specifically suggests that integrated reports be created either voluntarily or in response to current compliance obligations. Additionally, integrated reports could be contained in a different report or be a distinct and easily accessible part of another report.

This implies that a company has the option to create an "integrated report" that stands alone or to include the non-financial information in another report, notably yearly reports. Companies have chosen to refer to these studies as "integrated reports" in industrialized nations like France, the UK, Norway, and Denmark as well as rising nations like South Africa (Casonato et al. 2019). However, businesses in underdeveloped nations like Ghana do not offer separate integrated reports; instead, they include social and environmental information in their yearly reports (Maama et al. 2019; Ackah & Lamptey 2017; Mensah et al. 2017).

This study thus relied on annual reports for information on integrated reporting because the majority of listed firms do not issue standalone integrated reports but embed integrated reporting information in their annual reports (Maama & Mkhize, 2020). In addition, most studies on integrated reporting practices of firms have operationalized the dimensions of integrated reporting framework to measure integrated reporting practices of selected companies (Kılıç & Kuzey, 2018; Liu et al., 2019; Maama & Mkhize, 2020). Thus, this study sought to operationalize all dimensions of the integrated reporting framework to help measure integrated reporting practices of selected firms.

Dimensions of the integrated reporting framework

The integrated reporting framework uses three main "dimensions" to direct organizations in creating integrated reports, which are intended to replace or supplement annual, sustainability, and any other publicly available corporate reports to non-regulator stakeholders, where practical. These aspects also set the context for integrated reporting (IIRC, 2011). Six capitals make up the first dimension, nine content elements make up the second, and seven guiding principles make up the third. Capitals describe the assets and connections that organizations use and have an impact on. Capitals are not just the human, structural, and relational capitals mentioned in reports on intellectual capital. The integrated reporting framework's pages 11–12 define the six different categories of capitals: financial, manufactured, intellectual, human, social and relationship, and natural (IIRC, 2013).

The pool of cash that are at the organization's disposal for usage in the creation of commodities or the rendering of services is what is referred to as "financial capital." It is acquired from funding sources including grants, debt, stock, or operations and investments (IIRC, 2013). “Manufactured capital” is made up of manufactured physical objects (as distinct from natural physical objects) that are available to an organization for use in the production of goods or provision of services, including buildings, equipment, and infrastructure (such as roads, parts, bridges, and waste and water treatment plants). Although manufactured capital is frequently produced by other organizations, it also includes assets produced by the reporting organization for sale or when they are kept for the reporting organization's use (IIRC, 2013).

“Intellectual capital” is represented by organizational, knowledge-based intangibles, including: Intellectual property, such as patents, copyrights, software, rights and licenses and; Organizational capital such as tacit knowledge, systems, procedures and protocols (IIRC, 2013). "Human capital" refers to a person's skills, knowledge, and motivation to innovate, which includes: alignment with and support for an organization's governance framework, risk management strategy, and ethical values; ability to comprehend, develop, and implement an organization's strategy; loyalty and motivation for improving processes, goods, and services, as well as leadership, management, and collaboration skills (IIRC, 2013).

All environmental resources and production methods, both renewable and non-renewable, that support an organization's past, present, or future prosperity are referred to as "natural capital." It covers things like the health of the ecosystem and the quality of the air, water, soil, minerals, and forests. (IIRC, 2013). "Social and relational capital" refers to the networks of stakeholders, institutions, and relationships that exist within and within communities, as well as the capacity for information sharing that improves both individual and societal well-being. Shared standards, shared beliefs, and shared behaviours are examples of social and relationship capital. Another example is the trust and engagement that a company has built and works to maintain with external stakeholders. Intangibles linked to an organization's brand and reputation that it has built, as well as its social license to operate (IIRC, 2013).

The capitals represent both the value that organizations produce through their business models and the value that they use as inputs, according to the integrated reporting framework. Based on the requirements of their respective industries, numerous corporations may or may not place equal emphasis on reporting the various capitals. As a result, it is challenging to compare disclosures concerning capitals across various industries (Liu et al., 2019). The framework also notes that not every capital is equally applicable to or important to every organization. Even while most organizations have some relationship with all capitals, sometimes these interactions are too minor or too indirect to be included in the annual corporate report.

Another dimension of the integrated reporting framework is “Content Elements”. Content elements provide firms with direction for communicating their value-creation narrative. They also serve as a guide for the information in integrated reports and are interconnected. The nine content elements highlighted by the integrated reporting framework are the following: organizational overview and external environment; governance; business model; risks and opportunities; strategy and resource allocation; performance; outlook; basis of preparation and presentation; and general reporting guidance.

"Organizational overview and external environment" is the first content element of the integrated reporting framework. It requires that integrated reporting cover what an organization does and the circumstances under which it operates. It gives cognisance to the organization’s mission, vision, culture, ethics, values, ownership and operating structure, principal activities and markets, competitive landscape and market positioning, position within the value chain, key quantitative information, significant factors affecting the external environment, and the organization’s response to these factors. “Governance” is the next content element. It requires integrated reporting ought to provide insight about organization’s governance structure ability to create value in the short, medium and long term (IIRC, 2013).

The "Business model" content element calls for integrated reports that outline the organization's business model, which is its approach to converting inputs into outputs and results through its business operations in order to achieve its strategic goals and generate value over the organization's short, medium, and long-terms (IIRC, 2013). The “Risk and opportunities” content element stipulates that integrated reporting practices must recognize and contain the major risk and opportunities that have an impact on the organization’s capacity to generate value over the short, medium and long terms. “Strategy and resource allocation” is the fifth content element and it calls for an integrated report that details an organization's short-, medium-, and long-term strategic goals as well as its methods for achieving those goals (IIRC, 2013).

The sixth content element, "Performance," calls for a firm adopting integrated reporting practices to disclose in its report whether it has met its strategic goals and the results in terms of how they have affected capitals. The "Outlook" content element, which is the seventh, calls for an integrated report to emphasize the difficulties and unknowns that the company is likely to face as it implements its strategy as well as any potential repercussions for its business model and performance in the future. The eighth content element is "Basis of preparation and presentation." An integrated report must outline the organization's process for determining what things are material, the reporting boundary, important frameworks, and techniques for calculating or evaluating those matters (IIRC, 2013).

The last content element in the integrated reporting framework is the “General Reporting Guidance”. This content element talks about the general reporting matters relevant to the various Content Elements. It includes: disclosure of material matters; disclosures about the capitals; time frames for short medium and long-term; aggregation and disaggregation (IIRC, 2013). In conclusion, the Content Elements are essentially related to one another and are not exclusive of one another. Organizations are required to employ these Content Elements in accordance with the integrated reporting framework to illustrate the linkages between these elements in order to explain their distinct value-creation stories. (Klç & Kuzey, 2018).

The third dimension of the integrated reporting framework is “Guiding Principles”. Seven Guiding Principles are included in the integrated reporting framework to support organizations' integrated reporting practices as a whole and to assure the quality of integrated reports as well as transparency and comparability of integrated reports among various organizations (Liu et al., 2019). For the preparation and presentation of integrated reports as well as integrated reporting processes, guiding principles are used. The following guiding principles are included in this list: strategic emphasis and future orientation, information connection, stakeholder interactions, materiality, succinctness, reliability and completeness, consistency and comparability.

“Strategic focus and future orientation” is the first guiding principle. It stipulates that integrated reporting should provide insight into the organization’s strategy, and how it relates to the organization’s ability to create value in the short, medium and long term, and to its use of and effects on the capitals. The next guiding principle is “Connectivity of information”. It requires an integrated report to show a holistic picture of the combination, interrelatedness and dependencies between the factors that affect the organization’s ability to create value over time. “Stakeholder relationships” is another guiding principle. This principle states that an integrated report should provide insight into the nature and quality of the organization's relationships with its key stakeholders, including how and to what extent the organization understands, takes into account and responds to their legitimate needs and interests (IIRC, 2013).

"Materiality" another guiding principle states that integrated reporting should disclose information about matters that substantively affect the organization's ability to create value over the short, medium and long term. Further, "Conciseness" is a guiding principle which stipulates that an integrated report ought to be concise. "Reliability and completeness" is also a guiding principle in the integrated reporting framework. It stipulates that integrated reporting practices of a firm should include all material matters, both positive and negative, in a balanced way and without material error. The last guiding principle is "Consistency and comparability". This principle requires that the information in an integrated report should be presented: (a) on a basis that is consistent over time; and (b) in a way that enables comparison with other organizations to the extent it is material to the organization's own ability to create value over time (IIRC, 2013).

Sustainable development goals

The Sustainable Development Goals (SDGs) are a series of international agreements that were created at the Rio+20 United Nations Summit in Brazil in 2012 with the intention of supporting sustainable development (Carpentier & Rodriguez, 2019). The United Nations established the SDGs in 2015 as part of a resolution titled "Transforming our world: the 2030 Agenda for Sustainable Development." After the Millennium Development Goals (MDGs) expired in 2015, these promises expand on them

(Kumi, 2019). They include 169 targets, 17 overarching goals, and a list of indicators recommended by the Inter-Agency and Expert Group on SDG Indicators. (Mair et al., 2018). Table 1 below shows the lists of all SDGs adopted by members of the UN.

Table 1:Sustainable Development Goals set out by the United Nations

Goal number	Goal description
SDG 1	End poverty in all its forms everywhere
SDG 2	End hunger, achieve food security and improved nutrition and promote sustainable agriculture
SDG 3	Ensure healthy lives and promote well-being for all at all ages
SDG 4	Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
SDG 5	Achieve gender equality and empower all women and girls
SDG 6	Ensure availability and sustainable management of water and sanitation for all
SDG 7	Ensure access to affordable, reliable, sustainable and modern energy for all.
SDG 8	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.
SDG 9	Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
SDG 10	Reduce inequality within and among countries.

SDG 11	Make cities and human settlements inclusive, safe, resilient and sustainable.
SDG 12	Ensure sustainable consumption and production patterns
SDG 13	Take urgent action to combat climate changes and its impacts.
SDG 14	Conserve and sustainably use the oceans, seas and marine resources for sustainable development.
SDG 15	Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.
SDG 16	Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.
SDG 17	Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development.

Source: Adapted from United Nations 2030 Agenda (UN, 2015)

The Sustainable Development Goals (SDGs) are "soft" international law (Persson et al., 2016) that comprise a novel form of global "hybrid" governance through goal setting and stakeholder engagement. They were unanimously adopted by all UN member states as voluntary objectives to be achieved by 2030 (Bowen et al., 2017; Stevens & Kanie, 2016). (Biermann et al., 2017). Both a normative concept and complexity thinking are present in the SDGs. In its normative sense, it imagines a society with social inclusion, economic success, environmental sustainability, and cohesiveness. Therefore, the SDGs "promote equality and environmentally responsible economic development" (Kumi, 2019). The SDGs take development away from simple, reductionist, and idealized approaches to tackling global problems by serving as a "development blueprint" for both rich and developing nations.

The SDGs have a focus on people-centered, planet-based, partnership-based, and prosperity-based conceptions of development despite continuing the MDGs' unfinished task. The consultative procedures used in the construction of the SDGs took into account the complexity of the goals (Carpentier & Rodriguez, 2019). The complexity factor is concerned with all of the various interactions, interconnections, and interdependencies between social, economic, environmental, and political systems. The SDGs aim to be inclusive, but critics say they are overly complicated and ambitious, and they run the risk of diverting development away from meeting essential social needs in favor of achieving quantitative metrics (Liverman, 2018).

SDGs and the future of corporate reporting

Businesses are being urged to contribute to the Sustainable Development Goals (SDGs), which were established in 2015 as the global sustainable development agenda through 2030. SDG 17 asks for international collaborations for sustainable development. UNCTAD (2015) highlights the importance of corporate reporting for achieving the SDGs as well as the function of stock markets in encouraging greater corporate reporting. UNCTAD (2015) argues that corporate SDG reporting can enrich and expand SDGs monitoring mechanisms by giving with the means to examine the economic, environmental, and social impacts of firms on sustainable development. Izzo et al. (2020) defined corporate SDG reporting operationally as the voluntary disclosure of a firm's contribution towards SDGs realization in the firm's corporate reports.

In June 2023, the International Sustainability Standards Board (ISSB) introduced its inaugural International Sustainability Disclosure Standards, known as IFRS S1 and IFRS S2. These standards aim to enhance the disclosure of sustainability-related risks and opportunities in an organization, providing valuable information for stakeholders making decisions about resource allocation. IFRS S1 focuses on disclosing comprehensive information about sustainability-related factors that could reasonably impact a company's future prospects. On the other hand, IFRS S2 specifically addresses climate-related disclosures in corporate reports. These standards underscore the growing importance of sustainable development issues aligned with the Sustainable Development Goals (SDGs) and emphasize the need for their inclusion in company reports (Gaviria et al, 2023).

There is a strong commercial case for investing in SDG-aligned opportunities, including assisting investors in securing steady returns, better representing the values of their clients, and providing sustainable financial solutions that set them apart in the marketplace Adams (2017). Companies can help achieve the SDGs, for instance, by adhering to widely accepted values of labor, environmental impact, diversity, and anti-corruption in their everyday business operations and by disclosing the results of these principles in their yearly reports.

While some of the goals will only have an operational impact on some businesses, others, like Goal 5 on gender equality, Goal 8 on decent work and economic growth, Goal 9 on industry, innovation, and infrastructure, and Goal 12 on responsible consumption and production, can be incorporated into daily operations and used as the foundation for long-term future strategy (Tyagi, 2021). Businesses are also cautioned that achieving one or more of the SDGs, especially climate action, is essential for the long-term survival and success of some industries and businesses (CDSB, 2016).

Despite the fact that national governments are ultimately responsible for achieving the SDGs, it is clear from the foregoing that business and other organizations must work together to do so. Because of its substantial economic contribution, the private sector has a part to play in achieving the SDGs. Such developments directly affect the corporate reporting agenda. SDG 12's target 12.6 encourages business adoption of sustainable practices and incorporation of sustainability information into reporting cycles (UNCTAD, 2016). It is noteworthy that the SDGs address both the social and environmental facets of both the current and future societies, as well as the economic conditions, including financial stability and prosperity.

Effective corporate reporting practices are therefore encouraged in order to help companies and investors focus on the SDGs that are most likely to have an influence on the financial performance of particular entities. These practices show which SDGs are pertinent to a company's business model (Adams, 2017). In this regard, corporate reporting is expected to take a holistic approach and embed reporting on firms' contributions to SDGs in financial reporting. For instance, Tim Mohin, the Chief Executive of GRI, claimed that the private sector is essential to attaining the SDGs at a time when large corporations' earnings exceed the GDP of many nations and supply networks span the globe (Adams, 2017).

By reporting on their progress, companies will improve their performance which will enable meaningful progress towards achieving the SDGs. The SDGs offer a singular chance to improve sustainability communication and drive corporate openness and responsibility, according to Lise Kingo, CEO and Executive Director of the United Nations Global Compact (Adams, 2017). Governments have made this agenda a priority through SDG 12 in recognition of the significance of corporate adoption of sustainable practices and incorporation of this data into reporting cycles. Large expectations are placed on businesses. Companies who connect their reporting and communication with the SDGs will be using a vocabulary that is more and more widely used by governments, foundations, NGOs, and even investors.

In practice, while progress toward the SDGs is generally advantageous to businesses, there are several significant advantages that businesses can get from integrating, supporting, and reporting on SDG-related actions as outlined above. One of the salient benefits of corporate SDG reporting is its ability to influence the financial reporting quality of firms integrating it in their mainstream reporting process. The potential of corporate SDG reporting to moderate the relationship between integrated reporting practices and corporate financial reporting quality is also posited in literature (Adams, 2017) and this study investigated this proposition.

Moderating role of corporate SDG reporting

Companies are under pressure to report their contributions to the SDGs as a result of calls from a variety of stakeholders, and while they have the option to ignore these calls, doing so puts their legitimacy at risk (Silva, 2021). According to the legitimacy theory, a business needs social and environmental legitimacy in order to function, and it often does this by voluntarily posting reports of information on actions that are seen as expected by the communities where the entity operates (Erin et al., 2022). Businesses benefit from efforts to advance the SDGs in general, but there are some advantages specific to integrating, supporting, and disclosing SDG-related initiatives.

The mechanisms within which corporate SDG reporting operates is such that disclosing SDG related activities can reroute investment flows to maximize value creation and improve awareness of how business operations affect sustainable development (Silva, 2021). It can also help businesses find opportunities, lower risks, and deliver long-term, cutting-edge innovations and solutions to address sustainable development issues (Adams, 2017). In an analysis of the relationship between SDGs disclosure and firm values, Cahyaningtyas et al., (2020) found that SDGs disclosures is positively associated with company value. Also, findings of Jaff et al., (2021) reveal that corporate SDG reporting improves the quality of financial reporting.

The processes by which corporate SDG reporting functions are such that that at high levels of corporate SDG reporting, a firm gains improved legitimacy status (Silva, 2021) and this interacts with the impact that reporting the firm's value creation story has on the quality of financial reports issued to stakeholders. In contrast, having low levels of SDG disclosures weakens the impact that reporting a firm's value creation has on its financial reporting quality due to the fact that the firm loses its legitimacy status. Given that integrated reporting is primarily focused on concisely communicating an entity's value creation story, it is sufficient to deduce that the interactive mechanisms of corporate SDG reporting strengthen the impact of integrated reporting on the entity's financial reporting quality (Adams, 2017, Erin et al., 2022; Konstantinos & Dimitrios, 2016).

As such, entities reporting on their contributions to SDGs will witness a stronger effect of integrated reporting on their financial reporting quality relative to entities that do not report on SDGs (Konstantinos & Dimitrios 2016). Nevertheless, there exist a modicum of studies on the moderating effect of corporate SDG disclosures on the integrated reporting-financial reporting quality nexus (Adams, 2017), despite the legitimacy theory's positing that a firm's quest to gain legitimacy affects its behaviour and the quality of its financial reports issued (Deegan, 2004).

Core Indicators for SDGs in Corporate Reporting

In a bid to address major challenges and enhance the role of corporate reporting in attaining the SDGs set out UN Agenda 2030 for sustainable development, UNCTAD in 2016 proposed a set of core indicators for corporate SDG reporting. In establishing the set of indicators, the following issues were highlighted in consultations: relevance of the international financial reporting standards conceptual framework to sustainability or Goals-related reporting; relationship between universality and materiality; consistency in measurement methodology and data comparability; clarity of reporting boundaries; and incremental approach.

UNCTAD's proposed set of core indicators for corporate SDG reporting covers four key areas (namely: economic; environmental; social and; institutional) of the 2030 Agenda for sustainable development. Suggested indicators for economic aspect of the 2030 Agenda highlighted proxies for four SDGs (SDG 8, SDG 17, SDG 1, and SDG 9) pertinent to stakeholder value, economic performance, financial performance, local purchasing and supplier development and, investments related to the SDGs research and development. Four indicators were proposed to cover four specific economic targets (target 8.2; target 17.1; target 1.b and; target 9.3).

Proposed indicators for environmental aspect of the 2030 Agenda focused on four SDGs (SDG 6, SDG 7, SDG 9, and SDG 12) tackling energy, water, greenhouse gases emissions and, waste management issues. Five indicators were proposed to cover five specific environmental targets (target 6.4; target 12.5; target 9.4; target 12.4 and; target 7.3). Suggested indicators for social issues in the 2030 Agenda highlighted proxies for five SDGs (SDG 3, SDG 4, SDG 5, SDG 8, and SDG 9) pertinent to health and safety, human rights and fair trade, employment creation and labour policies, human resource development and, gender equality. Seven indicators were proposed to cover seven specific social targets (target 8.5; target 5.5; target 9.5; target 4.3; target 8.8; target 3.8; and; target 8.7).

Proposed indicators for institutional aspect of the 2030 Agenda focused on two SDGs (SDG 5, and SDG 16) covering governance, accountability and, anti-corruption issues of companies. Seven indicators were proposed to cover four specific institutional targets (target 16.7; target 5.5; target 16.6 and; target 16.5). In conclusion, UNCTADs proposed a checklist of twenty-three (23) core indicators covering twenty (20) specific targets and eleven SDGs to guide companies in reporting on their contributions to SDGs in their mainstream corporate reporting model. This study adapted and operationalized UNCTADs proposed list of core indicators for corporate SDG reporting to help measure SDG reporting and disclosure practices of listed companies in Ghana.

The concept of financial reporting quality

Providing high-quality financial reporting information on economic entities, primarily financial in nature, that is helpful for making economic decisions is the main goal of financial reporting (IASB, 2008). The need for a comprehensive and precise definition of financial reporting quality has spread throughout the world. According to Jonas and Blanchet (2000), managers and auditors disagree on the precise definition of financial reporting quality since it differs from person to person and from purpose to purpose. The IASB highlights that the goal of financial statements is to give information on the financial position, performance, and changes in financial status of a business that is helpful to a wide variety of users in making economic decisions.

Owing to the above, financial reporting quality has been defined by some researchers in terms of its objectives and decision-usefulness (Mbawuni, 2019). Verdi (2006), for example, described the financial reporting quality as the accuracy with which financial reports convey information about the firm's operations, in particular its cash flows, in order to inform equity investors. According to Tang et al. (2008), financial reporting quality is the extent to which the financial statements give honest and fair information about the underlying performance and financial condition. Similar to the above, Biddle et al. (2009) defined financial reporting quality as the accuracy and precision of information presented in the annual disclosure reports that reflect a corporation's performance, particularly in terms of the predicted cash flows and informing equity to investors.

According to Amah and Ekwe (2021), the level to which the financial statements give honest and fair information about the underlying financial condition and economic performance is referred to as financial reporting quality. Financial reporting quality was also described by Martinez-Ferrero et al. (2013) as the accuracy of the information provided during the financial reporting process. Financial reporting quality, as described by Hopen and Kemebradikemor (2019), is the accuracy of the information provided during both the financial and non-financial reporting processes. A certain amount of truth should be included in a company's financial statement at the conclusion of the fiscal year. This is referred to as quality to boost users' confidence (Amah & Ekwe, 2021).

The aforementioned definitions indicate that in order for a financial statement to be considered to have a high level of quality, it must be able to give accurate information about the business's economic performance. Furthermore, the term "financial reporting quality" encompasses a wider array of aspects, including disclosures and other non-financial information that can be included in annual reports and is valuable for making decisions. Due to the complex interplay between many factors, financial reporting quality is intrinsically difficult to quantify, particularly across borders. 2011 (Klai & Omri).

There is no universally accepted measure for financial reporting quality, as such different researchers use different measurements of financial reporting quality depending on their area of expertise and their experience, (Alsaadi et al., 2021). Providing ideal methods for assessing the quality of financial reporting is another global demand. The higher the quality of financial reporting, the more significant are the benefits to be gained by investors and users of the financial reports. Furthermore, the term "financial reporting quality" encompasses a wide range of non-financial information that is useful for decision-making in addition to financial information.

Financial reporting quality can be accessed directly or indirectly, according to Beest et al. (2009). Direct measurements can be made by operationalizing the qualitative characteristics of the IASB conceptual framework for financial reporting and using the Accruals model, Value relevance model, specific elements in annual report. Indirectly, the quality of financial reporting can be measured by focusing on attributes that are believed to influence quality of financial reports, such as earnings management, financial restatements, and timeliness (Barth et al., 2008; Schipper & Vincent, 2003; Cohen et al., 2004).

The Accrual and Value Relevance Model, which measures earnings quality, evaluates the quality of financial reporting. To properly assess a company's financial success, one must consider how well reported earnings "reflect economic reality" (Krishnan & Parsons, 2008). Specifically, accrual models are used to measure the extent of earnings management under current rules and legislation and assumes that managers use discretionary accruals, thereby allowing managers to exert some control to manage earnings (Healy &

Wahlen, 1999; Dechow et al., 1995). It is argued that accrual models do not give direct and thorough evidence regarding the quality of financial reporting information and its aspects of decision usefulness (Beest et al., 2009; Healy & Wahlen, 1999).

By concentrating on the connections between accounting information and stock-market responses, value relevance models assess the quality of financial reporting information (e.g., Choi et al., 1997; Nichols & Wahlen, 2004). It is thought that earnings information provides pertinent and trustworthy information when changes in accounting information coincide with changes in the firm's market value (Nichols & Wahlen, 2004). This approach is also used to investigate the components of earnings quality, such as earnings persistence, predictive power, and variability (Schipper & Vincent, 2003; Francis et al., 2004). Value relevance models have the drawback that the stock market may not be entirely efficient. As a result, stock prices that reflect the company's market value might not be entirely accurate (Nichols & Wahlen, 2004).

A major drawback of accrual and value relevance models is that they do not include both financial and non-financial information in the full annual financial report, instead focusing solely on information disclosed in financial statements to evaluate the quality of financial reporting (Beest et al., 2009; Nichols & Wahlen, 2004). Studies in the past have suggested that in order for scholars and practitioners to have a complete understanding of financial reporting quality, it is crucial to collect both financial and non-financial information (e.g., Beest et al., 2009; Cohen et al., 2004).

In line with studies by Beest et al. (2009) and Mbobo and Ekpo (2016), this study also adopts a more comprehensive approach to financial reporting quality measurement that takes into account disclosures and other non-financial information that is crucial for decision-making in addition to financial position and performance information (relevance and faithful representation, which are fundamental). To further evaluate the quality of financial reporting based on the qualitative characteristics of the IASB conceptual framework for financial reporting, this study employs the empirically validated financial reporting quality measurement tool (disclosure index) provided by Beest et al. in 2009.

Qualitative characteristics of the IASB conceptual framework for financial reporting

The IASB's conceptual framework effectively lays out the guiding principles that should guide the creation and presentation of financial statements. The fundamental and enhancing qualitative characteristics make up the IASB Conceptual Framework's qualitative characteristics (Beest et al, 2009). Relevance and faithful representation are the fundamental qualitative characteristics. Useful information and non-useful and/or deceptive information are two categories into which the information delivered to users is divided by the fundamental characteristics. The conceptual framework emphasizes that both of the aforementioned qualities—namely, relevance and faithful representation—must be present for the information to be valuable (Kythreotis, 2014).

"Relevance" is the first fundamental qualitative characteristic. IASB (2008, p. 35) defines relevance as having the power "to influence the decisions made by users in their capacity as capital suppliers." Information must have confirmatory and/or predictive values in order to be influential. In order to help users estimate the firm's future, predictive value focuses on data on the company's capacity to produce future cash flows and provides a wealth of forward-looking data. Annual financial reports have confirmation value "if it confirms or modifies past (or present) expectations based on prior judgments" (IASB, 2008, p. 36).

Being a faithful representation of financial records and business reports is the second fundamental qualitative characteristic. Faithful representation has been conceptualized and assessed using five interrelated sub-dimensions, including neutrality, completeness, accuracy or lack of material error, verifiability, and corporate governance (Rezaee & Tuo, 2019; Maines & Wahlen, 2006; Willekens, 2008). “Neutrality” is defined as the absence of prejudice intended to achieve a predefined result or to induce a particular behavior. Information that is neutral does not modify the message it conveys to steer behavior in a specific direction (IASB, 2008, p. 37). In this context, “accuracy” is limited to the absence of any significant inaccuracy with respect to accepted rules of accounting and finance (Beest et al., 2009; ICAEW, 2011).

“Completeness” describes the degree to which the information in annual financial report is thorough and covers all pertinent issues for informed decision-making (ICAEW, 2011). “Verifiability” is the degree to which a professional auditor can independently verify the financial reports. An unmodified audit opinion adds credibility value to financial reporting information by giving reasonable assurance about how faithfully the annual report represents economic phenomena (Coffie et al., 2018; Musah et al., 2018). This is because auditing has an impact on the quality of financial reporting (Willekens, 2008; Coffie et al., 2018; Musah et al., 2018).

Four enhancing qualitative characteristics are also defined by the IASB as being complementary to the fundamental characteristics. The primary distinction with the fundamental characteristics is that the enhancing characteristics by themselves cannot provide users with valuable information if the financial information is not described by the fundamental characteristics (Kythreotis, 2014). Information that is irrelevant or does not accurately represent what it claims to represent cannot be made usable by the enhancing qualitative characteristics, either separately or together. The procedure of implementing the enhancing qualitative characteristics is iterative and does not adhere to a set sequence (Kythreotis, 2014). Understandability, comparability, timeliness, and verifiability are the specific enhancing characteristics.

The first enhancing qualitative characteristic of financial reporting quality is understandability. It means that in order for users to fully grasp the financial report, the information must be categorized, described, and presented in a clear and succinct manner (IASB, 2008). Five criteria are used to measure understandability: well-organized information (classified and characterized); narrative notes or explanations for the balance sheet and income statement; use of tabular or graphic formats to clarify relationships and ensure conciseness (Beretta & Bozzolan, 2004); and use of simple words and sentences, as well as a glossary for unavoidable technical jargon, to increase ease of users' understanding.

Comparability is the second enhancing qualitative characteristic. Comparability, in accordance with the IASB, is the quality of information that enables users to discern similarities in and differences between two sets of economic occurrences" (IASB, 2008). To put it another way, identical situations ought to be presented similarly, whilst distinct situations ought to be presented otherwise. Thus, consistency—defined as "the application of the same accounting standards and processes, either from period to period within an entity or in a single period across entities"—is a component of comparability (IASB, 2008). Comparability also includes comparing various businesses (Beuselinck & Manigart, 2007; IASB, 2008).

“Verifiability” is another enhancing qualitative characteristic of useful financial information promulgated by the IASB’s conceptual framework for financial reporting. Verifiability helps assure users that information faithfully represents the economic phenomena it purports to represent. Verifiability means that different knowledgeable and independent observers could reach consensus, although not necessarily complete agreement, that a particular depiction is a faithful representation. Verification can be direct or indirect (Beest et. al, 2009; Kythreotis, 2014).

Timeliness is the last enhancing qualitative characteristic of useful financial information. In order to influence decision-makers' decisions, information must be made timely and available to them. In general, knowledge becomes less useful as it becomes older. Even after a reporting period has ended, some information might still be relevant because, for instance, some users still need to recognise and evaluate trends (Beest et. al, 2009; Kythreotis, 2014). Timeliness is measured in terms of the number of days between year-end and the signature on the auditors' report after year end, often using natural logarithm of this number of days (Mbawuni, 2019).

Empirical Review

The call on businesses to improve their financial reporting quality to meet information needs of wider stakeholder community is increasing globally and the Ghanaian context is not exempted. Key drivers of the global call for improvement in corporate financial reporting quality include the evolution and advancement of accounting theory, expanding stakeholder informational needs, globalization, the escalation of corporate scandals, and the salient role of companies in achieving the United Nations' Sustainable Development Goals (Nechita et al., 2020; Adams 2017; Donkor, 2017).

Ackah and Lamptey (2017) and Maama and Appiah (2019) made the argument that corporate reporting in Ghana has to advance and mature as more people become aware that the opportunities and issues plaguing a company's long-term worth go much beyond what is disclosed in the financial statements. In an assessment of the financial reporting quality of listed companies in Ghana, Mbawuni (2019) revealed that financial reporting quality of listed companies were moderate and called for significant improvement. The prospects of integrated reporting influencing the financial reporting quality of companies adopting integrated reporting practices have been considered in literature, albeit by studies mostly conducted outside the Ghanaian context.

A strand of research has contributed to the debate on the potential of integrated reporting influencing financial reporting quality of firms from a critical perspective by pointing out the benefits, challenges and deficiencies in integrated reporting (Cheng et al., 2014; De Villiers et al., 2014; Flower, 2015;

Dumay et al., 2017; Hoque, 2017; Schütte et. al, 2017; Vitolla & Raimo, 2018). Most findings revealed potential of integrated reporting influencing financial reporting quality of firms (Agbetunde et. al, 2020) albeit with few contrasting findings.

Other researchers employed surveys or interviews to learn more about how different stakeholders—such as business management, financial analysts, professional service providers, and academics—perceive the adoption of integrated reporting (Steyn, 2014; Robertson and Samy, 2015; Burke and Clark, 2016; Guthrie et al., 2017; Donkor, 2017). A further line of research examined the effects of integrated reporting on early adopters' reporting practices (Havlová, 2015; Melloni et al., 2015; Stacchezzini et al., 2016; Melloni et al., 2017). Other bodies of literature have concentrated on operationalizing the integrated reporting framework and the information content of organizations' integrated reporting practices (Liu et al., 2019; Klç & Kuzey, 2018).

In an attempt to evaluate the emergent factors for integrated reporting from an institutional perspective, Dragu and Tudor (2013) argued that integrated reporting can help attain corporate reporting transparency. They used content analysis of the annual integrated reports (from 2010-2012) of the fifty-eight companies from the IIRC pilot programme. A disclosure index for integrated reporting was created based on only the content elements dimension of the integrated reporting framework. Findings revealed that political, cultural, and economic factors were salient factors influencing the voluntary adoption of integrated reporting. It is noteworthy that although findings suggesting integrated reporting had a positive impact on corporate reporting transparency, their investigation failed to yield meaningful results on the association between integrated reporting and the financial reporting quality of chosen organisations.

Schütte et al. (2017) highlighted uncertainties regarding integrated reporting's ability to improve the quality of information, in contrast to Dragu and Tudor's (2013) results on the prospects of integrated reporting. Schütte et al. (2017) evaluated over a three-year period the long-term impact of integrated reporting on the quality of information provided by four South African enterprises (2012–2014). The authors conducted a thorough content analysis of the integrated reports of the corporations in terms of social, environmental, and ethical issues. The authors' research found that integrated reporting had a little impact on information quality. It is important to highlight that it is impossible to draw conclusions from the findings of Schütte et al. (2017) due to the small sample size, which makes it impossible to extrapolate the study's results to other businesses and sectors.

The assertions of Schütte et. al, (2017) were disputed by works of other researchers (Vitolla & Raimo, 2018; Agbetunde et. al, 2020; Muttakin et. al, 2020) whose findings revealed ability of integrated reporting to improve financial reporting quality. Vitolla and Raimo (2018) studied reasons and benefits for the adoption of integrated reporting using a single, in-depth case study of General Group (the largest insurance group in Italy). The study adopted a mixed methodology approach consisting of illustrative and exploratory case study methods.

Findings of Vitolla and Raimo (2018) revealed that the implementation of integrated reporting practices is as a result of clear desire of top management and the adoption of this practice has had a positive impact on the firm from an internal and external point of view. The study further revealed improvements in intra-company communications, enhanced stakeholder engagement activity, higher quality of external reporting combined with a greater readability of annual reports as salient benefits from integrated reporting. Despite the above findings by inferences cannot be made from such findings as the scope of their study (Vitolla & Raimo, 2018) is limited to only a single company.

In a different setting, Kılıç and Kuzey (2018) investigated the degree to which Turkish listed companies adhered to only the “content element” dimension of the integrated reporting framework when it came to their current corporate reporting practices. The authors created a disclosure index based on the content elements of the IIRC reporting framework, and calculated the integrated reporting disclosure score of each company through a manual content analysis of its annual reports and stand-alone sustainability reports. Their research revealed that current company reports tend to focus more on generic risks than company-specific risks, present financial and non-financial initiatives separately, lack a strategic focus, and include backward-looking information rather than forward-looking information. They also found that positive information is frequently presented while dismissing negative information.

Also, the authors (Kılıç & Kuzey, 2018) found that the integrated reporting score of firms is significantly and positively associated with sustainability reporting, Global Reporting Initiative (GRI) adoption, sustainability index listing and the presence of a sustainability committee. The study however failed to provide insight as to any association between adherence levels of annual reports to integrated reporting framework and financial reporting quality of said firms. It also operationalized integrated reporting framework of selected firms using only content elements dimension, thus ignoring capitals and guiding principles dimensions which are equally important in measuring integrated reporting practices of firms.

In a different setting, Muttakin et al. (2020) investigated the relationship between integrated reporting and cost of debt and whether integrated reporting moderates that association. Models that link integrated reporting and financial reporting quality with cost of debt were developed and used to analyse 847 firm-year observations drawn from non-financial firms traded on the Johannesburg Stock Exchange, for the period between 2009 and 2015. The authors found that firms that provide integrated reports have lower cost of debt than those not providing integrated reports. Also, integrated reporting had a moderating effect on the found inverse association between firms' financial reporting quality and cost of debt.

Agbetunde et. al, (2020) examined the effect of integrated reporting on the fundamental qualitative characteristics of financial statements of Nigerian Listed Companies. Using a survey design, questionnaires were developed by the authors to elicit responses from stakeholders in financial reporting chain. Both descriptive and inferential statistics were employed by the authors in analysing the data obtained. The authors found that integrated reporting exerted significant effect on the fundamental qualitative characteristics of financial statements of listed companies in Nigeria.

The use of simply capitals as the measure of integrated reporting, while ignoring content elements and guiding principles, which are the other aspects of integrated reporting specified in the integrated reporting framework, is a significant flaw in the study by Agbetunde et al. (2020). Additionally, Agbetunde et al. (2020) only took into account the fundamental qualitative characteristics given in the IASB's conceptual framework, omitting the enhancing qualitative characteristics outlined in the IASB's conceptual framework to supplement the fundamental characteristics. This gap calls for a more comprehensive study especially in the Ghanaian context where there is no published study has examined the relationship between integrated reporting and the financial reporting quality of listed firms.

Notwithstanding the numerous studies conducted on integrated reporting practices of firms in developed countries, very few studies have been carried on integrated reporting practices of firms in Ghana despite integrated reporting being advanced as the solution for the much-needed improvement in corporate financial reporting quality. The closest studies to date are those done by Donkor (2017), Ackah and Lamptey (2017), Mensah et al. (2017) and Maama and Appiah (2019) and Maama and Mkhize (2020). Using content analysis, Ackah and Lamptey (2017) looked at the corporate social responsibility reporting (CSRR) practises of the banking companies in Ghana and discovered that the companies included uplifting social information in their annual reports.

Mensah et al. (2017) also investigated how Ghanaian manufacturing companies addressed environmental accounting. The study discovered that the companies' environmental disclosure levels were low; nonetheless, the corporations offered upbeat information to balance out the perceived negative effects of their operations. In another context, Maama and Appiah's (2019) assessment of the extent to which listed enterprises in Ghana implement green reporting revealed that this practise was limited and that the firms were still learning how to adopt it.Donkor (2017), studied the development of integrated reporting in Ghana paying attention to the perception of accounting practitioners in Ghana. Their findings revealed limited diffusion of integrated reporting revealing that some of these challenges stem from the thoughts, experiences and competencies of the practitioners. The study admonished further studies on integrated reporting.

Maama and Mkhize used content analysis of annual reports (from 2005 to 2018) of thirty-three (33) chosen firms to investigate the integrated reporting practises of listed firms in Ghana. The degree and trend of the firms' integrated reporting practises were examined, and the results showed that the firms strove to accomplish their strategic goals by disclosing data that portrayed them favourably. Their analysis came to the conclusion that the corporations' integrated reporting practises were tactics to enhance their individual public perceptions and win public acceptability. Despite findings contributing to literature through the provision of evidence on integrated reporting aspects and trends of Ghanaian firms, it failed to examine possible influence of integrated reporting on financial reporting quality of selected firms.

Conclusions that can be drawn from the foregoing review highlights the fact that there is limited empirical studies on integrated reporting practices and financial reporting quality of firms in Ghana despite call for improvement in financial reporting quality of firms in Ghana. Also, to the best knowledge of the researcher, no empirical study has been conducted to assess the potential influence of integrated reporting on the financial reporting quality of firms in Ghana despite integrated reporting being advanced in literature as the innovation solution to improve corporate financial reporting quality. Furthermore, there hasn't been any empirical research on the moderating impact of corporate SDG reporting on the association between integrated reporting practises and firm-level financial reporting quality. Given these factors, conducting a study to close this gap in the literature is the correct step to take.

Conceptual Framework

Based on the overall justification for the study's central theme and the outcomes of the literature review, this study conceptualized that there exists a positive relationship between integrated reporting and the financial reporting quality of firms. The study further conceptualized that corporate SDG reporting has a positive effect on financial reporting quality of firms, and exerts a moderating effect on the relationship between integrated reporting and financial reporting quality of listed firms on the Ghana Stock Exchange (GSE).

Integrated reporting (independent variable of the study) was operationally defined as the corporate reporting practice of including financial and non-financial information in the annual reports of companies. It was evaluated using all three dimensions of the IIRC's integrated reporting framework. Financial reporting quality (dependent variable) was operationally defined in this study as the extent to which annual reports of companies adheres to the IASB qualitative characteristics of useful financial information. It was directly assessed based on the qualitative characteristics spelt out in the IASB's conceptual framework for financial reporting, consistent with the studies of Beest et. al (2009). An SDG disclosure index based on UNCTAD's list of core indicators for SDGs in company reporting is used to operationalize SDGs reporting (moderating variable). The relationship between the variables is illustrated in figure 1 below.

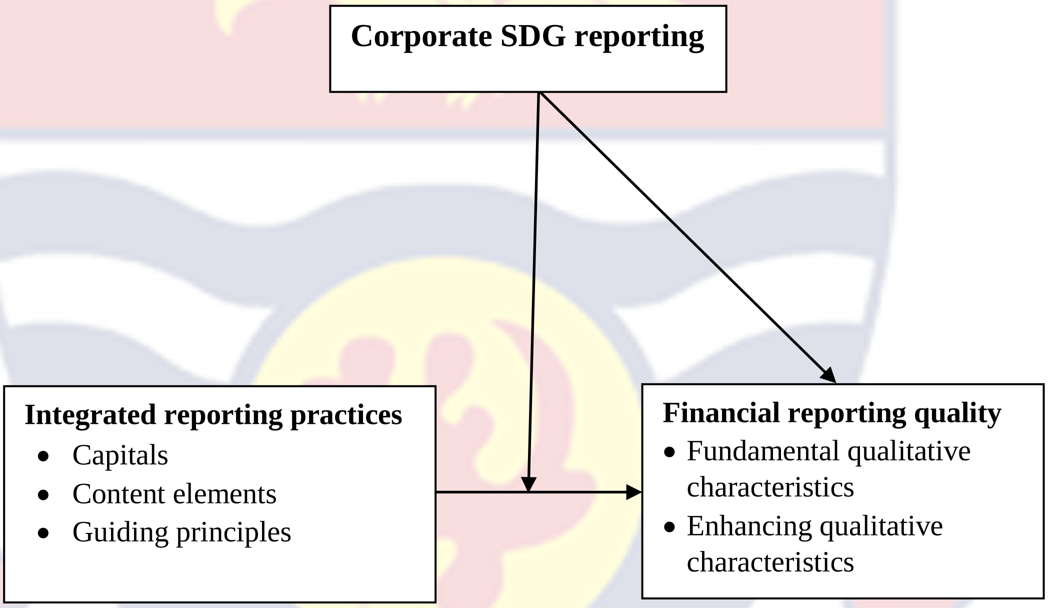

Figure 1: Conceptual Framework

Source: Author's Construct (2022)

Chapter Summary

The stakeholder theory and the legitimacy theory, the two key theories used to support the study, were discussed in this chapter. The concept of integrated reporting, and the development of integrated reporting was discussed. Also, the integrated reporting framework, its dimensions and criticisms were discussed. Furthermore, the sustainable development goals and its implications for the future of corporate reporting were explored. The concept of financial reporting quality was also explained in the light of the qualitative characteristics of the IASB conceptual framework was also discussed. The chapter ended with an empirical review of relevant literature bringing out the conceptual framework that highlights the relationship existing among the variables of the study.

CHAPTER THREE

RESEARCH METHODS

Introduction

The main purpose of the study is to examine the effect of integrated reporting and corporate SDG reporting on the financial reporting quality of listed firms in Ghana. The methodological basis for the study is presented in this chapter. It covers the research paradigm, research approach, research design, data type and source, methods and tools of analysis, empirical model specification, description of variables used in the model, and estimation technique.

Research Paradigm

The research is set in the context and assumptions of positivist philosophy, which permits the use of quantitative methods. The positivist philosophy holds that objective knowledge pursued systematically by researchers is founded on general causal laws (Acquah, Zoogah, & Kwesiga, 2013). Because knowledge is externally objective, the philosophy presupposes that a perfectly impartial and detached stance is taken toward the assessment of the relationship between integrated reporting and corporate SDG reporting, and financial reporting quality. Such a posture assures that the researcher's views and prejudices do not influence the study and thereby jeopardise its validity (Eberhardt & Teal, 2011). Thus, since the researcher sought to assume an objective position, by using secondary quantitative data only to determine the relationship between integrated reporting and corporate SDG reporting, and financial reporting quality, this philosophy was deemed appropriate for the study.

Research Approach

Depending on their research philosophies, researchers employ various analytical techniques or methodologies. There are three categories of analytical techniques: quantitative, qualitative, and mixed (Creswell, 2013). The suitability of a certain technique to address both the research problem and the research question is considered while choosing it. This study used the quantitative approach to investigate the effect of integrated reporting and corporate SDG reporting on financial reporting quality.

According to Sarantakos (2005), the purpose of quantitative research is to collect data and measure variables in order to make judgements about the status of the variable in question, which will then permit further processing, comparisons, and replication. The study attempted to observe the outcome of one variable (financial reporting quality) by manipulating other variables (integrated reporting and corporate SDG reporting), hence the quantitative approach was more appropriate for this study. Additionally, the study sought to test hypotheses through the use of numerical data to measure constructs, which requires the quantitative approach (Cameron & Sankaran, 2015), hence the use of quantitative research approach in this study.

Research Design

The process of addressing research hypotheses and responding to research questions is referred to as research design. It entails certain data analysis techniques or methodologies the researcher intends to use and is an overall plan for gathering data in order to address research issues. Principles like the research design, problem, and research questions serve as a guidance when choosing a research design (Creswell, 2013). The explanatory design was used to address the objectives and accompanying study hypotheses because of the nature of the study's objectives. This design is employed when it's necessary to look into how one variable affects another. The appropriateness of this design is reinforced by the continuous nature of both the dependent and independent variables.

Population

The entire set of objects that the researcher is interested in is the population of a study. According to Douglas (2006), the population of the research is related to the entire universe of units from which the sample was drawn. Population is the target group that the researcher is interested in learning more about in order to gather data and develop conclusions about, according to Leedy and Ormrod (2010). Given the pivotal call on the private sector to enhance transparency and accountability in corporate reporting practices, the population for this study constitutes all the thirty-seven (37) firms listed on the Ghana Stock Exchange (see appendix A).

Sampling Procedure

Sampling, as defined by Malhotra and Birks (2007), is the act of selecting a representative few or unit from a larger group or population, which is then used as a foundation for estimating particular qualities or elements of the group or population. The study sought to consider only firms in the banking and manufacturing sectors listed on the GSE. Thus, all banks and manufacturing firms were considered for the study subject to the following criteria: being listed on the GSE for at least five consecutive years; having published annual reports for at least four years.

The criterion sampling technique was employed because integrated reporting became more prevalent as a corporate reporting standard following the IIRC's publication of an integrated reporting framework in December 2013 to help with integrated reporting practises, and because the call for the private sector to incorporate the SDGs into their corporate reporting gained international recognition following the adoption of the SDGs by the United Nations' member countries in 2015. Considering these, the data for the study was retrieved from the annual reports of 21 firms for the reporting years 2016 to 2020. It is important to note that the information obtained from annual reports included more than just financial statements. It also included other published data, reports, and disclosures that are deemed pertinent for the variables under study.

Data Collection Instrument

The annual reports were subjected to content analysis in order to gather data for the study's relevant variables. According to Guthrie and Abeysekera (2006), content analysis of annual reports is a method for obtaining data that entails classifying both qualitative and quantitative data into pre-established categories in order to identify trends in how the data is presented and reported. Enumerating the forms of texts and drawing semantic inferences about their meanings are the two primary components of content analysis (Steenkamp & Northcott, 2008). To be more precise, the study used semantic content analysis, in which coding is done based on the text's meaning rather than just a word's appearance. The use of content analysis is justified as it is frequently employed in accounting research to provide insightful information on accounting procedures (Steenkamp & Northcott, 2008).

Parker (2005) asserts that content analysis has been the preeminent method for gathering empirical data among scholars in the field of social environmental accounting (SEA). The potential benefit of content analysis is that it may allow researchers to read beyond the text as it is currently written to draw reliable conclusions about underlying or hidden (and possibly unintended) signals and meanings that are of interest. A major practical challenge with content analysis involves making subjective judgments as to the meaning(s) and appropriate categorisation (coding) of texts. Guthrie and Abeysekera (2006) advanced that for content analysis to be effective: first, the unit of analysis should be clearly and operationally defined; second, data capture must be systematic and belong to a particular category; third, content analysis must demonstrate some form of reliability and validity.

Disclosure indexes were developed for the variables under study. According to Liu et al. (2019), a disclosure index is a research tool that consists of a number of pre-selected items used to gauge the degree of disclosure in a particular situation. Disclosure index has been acknowledged as the most effective way to gauge the level of disclosure to which a disclosure is required (Lui, Jubb & Abhayawansa, 2019). The study modified and operationalized the empirically validated integrated reporting disclosure index created by Liu et al. (2019) to measure the level of disclosure on each of the Capitals, Content Elements, and Guiding Principles of the integrated reporting framework in order to evaluate the integrated reporting practises (independent variable of the study) of selected companies.

Thus, a disclosure index consisting of ninety (90) disclosure items covering all three dimensions of the integrated reporting framework was used to operationalise the integrated reporting framework and measure integrated reporting practices of selected firms. Where a given disclosure item was present in the annual report, a score of "1" was assigned, and where a given disclosure item was absent in the annual report, a score of "0" is assigned. The justification for the adoption of the disclosure index of Liu et al., (2019) was to enable the researcher achieve specific objective one (1) of the current study which sought to assess the extent of inclusion of all three dimensions of the integrated reporting framework in corporate reports of listed firms on GSE.

The study used the core indicators for corporate SDG reporting (moderating variable of the study) proposed by UNCTAD (2016) and created an SDG disclosure index to operationalize the SDG reporting and disclosure practises of selected organisations. A score ranging from 1 to 5 was assigned based on the extent of disclosure(s) made. The dependent variable of the study (financial reporting quality) was assessed by operationalising the qualitative characteristics (both fundamental and enhancing) set out in the IASBs conceptual framework for financial reporting, guided by the works of prior researchers (Beest et al., 2009; Kythreotis, 2014). A disclosure index, consisting of twenty-one (21) disclosure items on both fundamental and enhancing qualitative characteristics of IASB conceptual framework was used with a score ranging from 1 to 5 being assigned.

Integrated reporting and corporate SDG reporting aren't the only factors that affect the quality of financial reports issued. Thus, guided by the literature on voluntary disclosures (Hamad et al., 2023), the study used firm characteristics as control variables. Specifically, the study operationalized firm size, age and leverage as control variables. According to Rosati and Faria

(2019), larger firms with higher level of assets are more likely to engage in both mandatory and voluntary disclosures that enhance quality of financial information published.

In addition, firm age reflects the reputation and stability of firms in the market as firms that were established long ago tend to have more environmental, social and governance practices (Baraibar-Diez & Odriozola, 2019). Finally, firm leverage according to Hamad et al., (2023) is another factor influencing firm disclosures as firms with higher leverage tend to be less interested in voluntary disclosures that affect quality of information issued. Summary of all variables considered for the study, their measurements and empirical justifications are given in Table 1 below.

Table 2:Measurement of Variables

Variable	**Measurement**	**Justification**
Integrated reporting practices (independent variable)	Integrated reporting disclosure index (made up of 90 disclosure items). Where a given disclosure item was present in the annual report, a score of "1" was assigned, and where a given disclosure item was absent in the annual report, a score of "0" is assigned. Average score of total items disclosed in an entity's annual report was subsequently computed to obtain IR score.	Kılıç & Kuzey (2018) Liu et al., (2019)
Corporate SDG reporting (moderating variable)	Adaptation of UNCTAD's list of core indicators for corporate SDG reporting. Scores ranging from 1 to 5 were assigned based on the extent of disclosure(s) made.	UNCTAD (2016)
Firm Size (control variable)	Natural logarithm of total assets of an entity	Hamad et al., (2023)
Firm Leverage (control variable)	Computation of debt ratio – calculated by dividing total debt by total equity, as proxy for firm leverage.	Hamad et al., (2023)
Firm Age (control variable)	Natural logarithm (reporting year – firm incorporation year)	(Baraibar-Diez & Odriozola, 2019
Financial reporting quality (dependent variable)	Operationalization of qualitative characteristics (both fundamental and enhancing) set out in the IASB's conceptual framework for financial reporting. Scores ranging from 1 to 5 were assigned	Beest et al., (2009); Kythreotis, 2014

Model Specification

The specified model below was used to assess whether there is a significant relationship between integrated reporting practices, corporate SDG reporting and financial reporting quality. Consistent with prior studies, this study used the multiple linear regressions to assess the variability of financial reporting quality and its association with integrated reporting practices, corporate SDG reporting. The following regression model was thus developed in testing the hypotheses.

$$FRQ_{it} = \beta_1 FRQ_{it-1} + \beta_2 IRP_{it} + \beta_3 SDG_{it} + \beta_4 IRP*SDG_{it} + \beta_5 SIZE_{it} + \beta_6 LEV_{it} + \beta_7 AGE_{it} + \varepsilon_{it} \qquad (1)$$

Where:

FRQ = financial reporting quality

IRP = integrated reporting practices

SDG = corporate SDG reporting

SIZE = firm size

LEV = firm leverage

AGE = firm age

ε = error term

Data Analysis and Estimation Technique

This section presents how the panel data were analysed and estimated to achieve the study objectives. To achieve the first objective which sought to determine the adherence level of annual reports to all three dimensions of IIRC framework, the disclosure scores were transformed to percentage scores. Scores above (50%) indicate high level of adherence, score of (50%) indicates moderate level of adherence, and scores below (50%) indicate low adherence level. Frequencies were then used to show the number of firms exhibiting a particular level of adherence, and the overall adherence level determined based on which level of adherence (in terms of the percentage scores) was exhibited by majority of the listed firms. This analytical approach was adapted from Van Oorschot (2010).

For the second, third and fourth objectives, the data processing was done by Eviews version 10. The System Generalised Method of Moments (GMM) panel estimator was used to estimate the regression model specified in equation one. Arellano and Bond promoted the difference GMM, the original GMM panel estimator (1991). Arellano and Bond (1991) estimated panel data equations that successfully eliminated firm fixed effects and eliminated unobservable simultaneity bias by using the differences of the variables and the levels of the lagged values of time-varying variables as instruments for the equations in differences.

The system GMM was appropriate for this study as it extracts the exogenous components of the endogenous variables or variables that have simultaneity bias to address reverse causality (Miletkov, & Wintoki, 2012). This means that the GMM estimator manages the potential endogeneity issue between independent variables and the dependent variable by extracting the endogenous independent variables' exogenous components and using them as instruments to represent the independent variables.

It should also be pointed out that there are two alternatives when it comes to the employment of the system GMM – the one step-estimator and the two step-estimators. This study employed the 2-step GMM estimator because, theoretically, it has proven to be more efficient than the one-step estimator (Miletkov & Wintoki, 2012). Nonetheless, due to the fact that there could be instrument proliferation when there is a modest time-series dimension contrasted with the cross-sectional dimension (Roodman, 2009), the study employed the approach proposed by Roodman (2009) in order to reduce the chances of bias from instrument proliferation. This approach confines the moment conditions to a maximum of two lags of the dependent variable.

To confirm that the model is adequate, diagnostic tests were also carried out. The GMM estimator needs to pass two (2) key diagnostic tests: the Arellano and Bond serial correlation test for serial correlation, and the Hansen/Sargan test for instrument validity. According to Mileva (2007), the null hypothesis of the Arellano-Bond test for autocorrelation is that there is no autocorrelation, and it was used to analyze the differenced residuals. The null hypothesis for the test of the AR (1) process in the first differences is often anticipated to be rejected. However, the test for AR (2) in first differences is more significant because it will recognise autocorrelation in levels and therefore, its null hypothesis should be accepted.

The Hansen/Sargan test of over-identifying restrictions has a null hypothesis of “the instruments as a group are exogenous” and it is important that a rejection of this null may be indicative that the exclusion restrictions for these instruments may be incongruous. Thus, the higher the p-value of the Hansen/Sargan statistic the better on the grounds that it is an indication that the instruments employed in the GMM estimations are substantial and that exclusion restrictions for these instruments are fitting.

Chapter Summary

The objective of this chapter was to explain in detail the methods used to analyse the data required for this study. The study employed the positivist research philosophy, and the quantitative approach with the explanatory design was used, as it sought to assess cause-effect relationships. Empirical models including all the variables (dependent and independent) were specified. It should also be stated that before the main analyses to achieve the second and third objectives, and to assess the adequacy of the model, the study tested for multicollinearity using the Pearson product-moment correlation matrix; and as well, a summary statistic using mean and standard deviation were presented.

CHAPTER FOUR

RESULTS AND DISCUSSION

Introduction

The thrust of this study was to empirically examine the effect of integrated reporting on the financial reporting quality of listed firms in Ghana. This chapter presents the results and discussion of same of the study. The chapter is organised in five parts. The first part presents results and discussion on the first research objective. Next, results and discussion on the second research objective is presented. Third, the third research objective is analysed. Fourth, results and discussion on the fourth objective is presented. Fifth, a summary of the corresponding hypotheses tested is displayed.

Level of Adherence of Annual Reports

The first research objective sought to determine the adherence level of annual reports of listed firms to all three dimensions of the IIRC integrated reporting framework. The objective was basically to find out, in percentage terms, the average level of adherence of the annual reports to the three dimensions of capitals, content elements and guiding principles of IIRC integrated reporting framework. To achieve this objective, annual reports of listed firms included in the study were analysed to check the number of dimensions disclosed, out of the three, on the surface of the reports. Adapting the integrated reporting disclosure measurement tool used by Liu et al., (2019), a score of one (1) was assigned when a given disclosure item was present in the annual report, while zero (0) score indicated non-disclosure of an item.

This scoring scheme was used primarily to minimise the general subjectivity inherent in disclosure indices and avoid the procedural problems involved in assigning weights (Appiagyei et al., 2016; Hassan, 2019). The scores were then added together for each listed firm and converted to percentage. Percentage scores above (50%) indicate high level of adherence, score of (50%) indicates average or moderate level of adherence, and scores below (50%) indicate low adherence level of annual reports of firms. Frequencies were then used to show the number of firms exhibiting a particular level of adherence, and overall level of adherence determined based on which level of adherence (in terms of the percentage scores) was exhibited by majority of the firms. The results are displayed in Table 3.

Table 3:Level of Adherence among Listed Firms (N = 21)

Level of adherence score (%)	Frequency (%)
> 50%	12 (57.14)
50%	0 (0.00)
< 50%	9 (42.86)
Overall level of adherence	58.6%

Source: Field data (2023)

From the results in Table 3, it could be seen that out of the 21 selected listed firms, 12 firms, representing (57.14%), had adherence level of above (50%), indicating a high level of adherence of annual reports to all three dimensions of the IIRC integrated reporting framework. No firm (0, 0.00%) showed an adherence level score of exactly (50%). However, nine firms, representing (42.86%), reported low level of adherence of their annual reports to all three dimensions of the IIRC integrated reporting framework. Overall, adherence level among firms listed on the Ghana Stock Exchange was appreciably encouraging, and this was reflected in the overall adherence level of (58.6%).

This finding implies that firms listed on the Ghana Stock Exchange have, over the years, improved on their understanding of benefits associated with disclosure of issues related to capitals, content elements and guiding principles. The following reasons might have accounted for the moderately high level of adherence recorded in Table 3.

First, the quest to gain legitimacy in the eyes of wider stakeholder groups might have motivated listed firms to improve their integrated reporting practices. With the rising stakeholder needs, firms may be responding appropriately by integrating more useful financial and non-financial information in their annual reports to strategically gain legitimacy in the eyes of stakeholders and capital providers. This notion is consistent with the findings of Maama and Mkhize (2020) who found that integrated reporting practices of listed on the Ghana Stock Exchange were both legitimacy and stakeholder oriented.

Another potential reason that could have contributed to the moderately high adherence level of annual reports of listed firms to the IIRC framework is the quest to attract financial capital providers (especially foreign investors). According to Sofian et al, (2016) over seventy-one (71%) of the investors use integrated reporting in the decision-making process. Thus, beyond the idea of supporting a new trend in the area of reporting, integrated reporting practice is actually desired by investors. This is also supported by proposition of Adams (2017) which averts that integrated reporting can redirect investment flows to maximize value creation and enhance knowledge of the impact of business activities on sustainable development.

In addition, rigorous regulatory requirements by Ghana Stock Exchange and other stock exchanges (in the case of multinational firms) could contribute to rise in integrated reporting practices of firms. For instance, due to it listing on the Johannesburg Stock Exchange, Anglogold Ashanti Ltd has been preparing integrated reports on an obligatory basis due to integrated reporting being compulsory in its ultimate parent country South Africa. Further studies are needed to accentuate whether listing rules affects integrated reporting practices of listed firms in Ghana and potential variations relative to non-listed firms.

Finally, another laudable reason that could have contributed to the high adherence level of annual reports of listed firms to the IIRC framework is the desire of firms to provide positive societal and financial information, whilst dismissing negative information in their annual reports. This assertion is consistent with the findings of Kılıç and Kuzey (2018) who, having studied that adherence level of current corporate reporting among Turkish listed firms to only the “content element” dimension of the integrated reporting framework, concluded that current company reports mainly provide positive information while dismissing negative information. In the Ghanaian context, Ackah and Lamptey (2017) having used content analysis to examine the CSRR practices of the banking firms in Ghana revealed that the firms provided positive social information in their annual reports.

In all, it could be seen from the results that firms listed on the Ghana Stock Exchange are gradually disclosing items found in all three dimensions of the IIRC integrated reporting framework in their annual reports. This might have accounted for the encouraging adherence level of annual reports among the firms. In a way, these disclosures might even be one of the drivers for improved performance among large listed firms; thereby, encouraging the firms to even make more disclosures of IIRC framework dimensions.

Integrated Reporting Practices, Corporate SDG Reporting and Financial Reporting Quality

The second, third and fourth objectives sought to analyse the effects of integrated reporting practices (IRP), corporate SDG reporting (SDG), and IRP*SDG on financial reporting quality (FRQ), respectively. The related hypotheses are tested accordingly. To achieve this objective, the regression technique, estimated using system GMM, was employed. However, before the main estimation to achieve this objective, this section presents summary statistics, correlation and unit root test.

Summary statistics of variables

This section of the chapter presents a summary of descriptive statistics of the variables of integrated reporting practices (IRP), corporate SDG reporting (SDG), and financial reporting quality (FRQ). This is to ensure a simple exploration and distribution of these variables. Descriptive statistics of mean, standard deviation, maximum and minimum were used for the analysis. The results are displayed in Table 4.

Table 4: Summary Statistics of Variables

Variables	Mean	Std. Dev.	Maximum	Minimum
IRP	0.62	0.73	0.95	0.38
SDG	0.46	0.66	0.76	0.21
FRQ	0.63	0.33	0.83	0.4 9

Source: Field data (2023) Obs. = 105

From the results displayed in Table 4, it appeared that, on average the integrated reporting practices of firms listed on the Ghana Stock Exchange was high, relative to the highest possible score of 1.00 a firm could obtain (M = 0.62 ± 0.73SD). This implies that majority of the listed firms disclosed most of the integrated reporting framework disclosure items in their annual reports for the period 2016-2020. This notion could also be highlighted in the high maximum value (Max = 0.95) obtained. However, the minimum value obtained (Min = 0.38) constituted a little less than 40% of the highest possible score. This implies that some firms had poor integrated reporting practices and disclosed less items in their annual reports despite majority of the firms having good integrated reporting practices.

Also, the results revealed that the quality of annual reports published by firms listed on the Ghana Stock Exchange was averagely high (M = 0.63 ± 0.73SD) relative to a highest possible score of 1.00 a firm could obtain. This signifies that the financial reporting quality of listed firms was high and accentuated by the maximum value obtained (Max = 0.83). Considerable improvement in financial reporting quality is still needed as the minimum value obtained (Min = 0.49) rounded just half the highest possible score. This implies that whilst most firms saw improvement in their financial reporting quality, other firms achieved moderate financial reporting quality stressing the need for considerable improvement in financial reporting quality of listed firms.

On the issue of corporate SDG reporting, it appears that on average, listed firms on the Ghana Stock Exchange made low disclosures on their contributions to SDGs in their annual reports. This is evidenced by a low average score (M = 0.46 ± 0.66SD) which is less 50% of the highest possible score of 1.00 a firm could obtain. This is reiterated with the minimum score obtained (Min = 0.21) which is not even up to a quarter of the highest possible score. Notwithstanding this finding, some firm(s) made high disclosures on the SDGs in their annual reports as evidenced in the maximum score obtained (Max = 0.76) which three-quarters of the highest possible score a firm could obtain.

Pairwise correlation

This section of the chapter assesses the pairwise correlation matrix between the variables. This analysis was conducted for two main reasons: One, to justify the employment of a dynamic model instead of a static model, and this justification could be seen from the pairwise correlation between the lag of the dependent variable (Lag-FRQ) and the independent variables (IRP and SDG); two, to conclude on whether the independent variables display multicollinearity, based on the correlation coefficients – as issues of multicollinearity could hamper the reliability of the regression estimates. The results are displayed in Table 5.

Table 5: Correlation between Variables

Variables	Lag-FRQ	FRQ	IRP	SDG	IRP_SDG
Lag-FRQ	1				
FRQ	0.5175	1			
	(0.0000)				
IRP	0.1568	0.1566	1		
	(0.0171)	(0.0173)			
SDG	0.0816	0.1436	0.0693	1	
	(0.2169)	(0.0291)	(0.2945)		
IRP_SDG	0.0248	0.0022	0.3074	0.0868	1
	(0.7082)	(0.9738)	(0.0000)	(0.1889)	

Source: Field data (2023) Obs. = 105

Table 5 revealed a statistically significant positive relationship between the dependent variable, financial reporting quality and its lag. This association was moderately strong (r = 0.5175, P < 0.05). This indicates that previous financial reporting quality of listed firms is related to the current financial reporting quality of listed firms, thus, static models could not be employed to examine the phenomenon, as static model do not consider the possibility that the lag of a dependent variable can influence the dependent variable (Idun, 2018). Additionally, the results showed that integrated reporting practices was significantly associated with financial reporting quality, even though this association was positively weak (r = 0.1566, P < 0.05). Also, corporate SDG reporting was reported to have a statistically significant positive but weak association with financial reporting quality (r = 0.0173, P < 0.05).

Further, it could be seen from Table 5 that the pairwise correlations among the independent variables were quite low; thus, did not pose issues of multicollinearity, as strengths of the relationships were all lower than 0.9 (Kennedy, 2008). Considering these, it sufficed to include all the independent variables in one model.

Unit root test

To ensure that data for the various variables were stationary, a unit root test was conducted. The Fisher's Augmented Dickey-Fuller (ADF) test was carried out, as it is known as a good tool for assessing unit root in balanced panel dataset (Abeka, Andoh, Gatsi, & Kawor, 2021). Specifically, the test was run on the variables of financial reporting quality (FRQ), integrated reporting practices (IRP) and corporate SDG reporting (SDG). The results from the test are displayed in Table 6.

Table 6: Unit root test

Variables	Level	1st difference	2nd difference
	Statistic	Statistic	Statistic
FRQ	69.9419	78.8911	105.625
	(0.0044)	(0.0005)	(0.0000)
IRP	52.7672	60.1969	75.4425
	(0.1233)	(0.034)	(0.0012)
SDG	66.2647	67.5882	72.0608
	(0.0099)	(0.0074)	(0.0027)

Source: Field data (2023)

From the results displayed in Table 6, it could be seen that Fisher's ADF test was conducted in levels, first difference, and second difference. Basically, the Fisher's ADF tests the null hypothesis that the "*variables have a unit root*". From the results, apart from IRP, the null hypothesis was rejected for at both level and first difference. Nonetheless, the test at second difference showed that all the variables were stationary, thus the null hypothesis of presence of a unit root was rejected.

Regression estimates

Basically, this section was to help analyse the second, third and fourth objectives which sought to analyse the effects of integrated reporting practices (IRP), corporate SDG reporting (SDG), and IRP*SDG on financial reporting quality (FRQ), respectively. To analyse these objectives, the regression technique, estimated using GMM, was employed. The results are displayed in Table 7. The results are then discussed according to the individual effects of IRP, SDG and IRP*SDG on FRQ.

Table 7: Regression Results

	Model 1				Model 2			
Variable	β	S.E	T	p>|t|	β	S.E	T	p>|t|
FRQ (-1)	1.822	0.617	2.954	0.042	2.251	1.059	2.477	0.034
IRP	1.338	0.509	2.627	0.004	-5.004	1.539	-3.251	0.002
SDG	2.854	0.835	-3.417	0.001	-2.843	0.838	-3.392	0.001
FIRM_AGE	0.005	0.00165	3.0321	0.004	0.013	0.004146	3.089	0.029
FIRM_SIZE	-6.297	1.779	-3.539	0.009	-6.829	1.909	-3.578	0.004
LEVERAGE	2.806	0.602	4.661	0.001	3.829	1.011	3.787	0.004
IRP*SDG					1.354	0.584	2.319	0.015
R-squared	0.512				0.514			
Adjusted R-squared	0.437				0.447			
R-squared change	-				0.010			
J-statistic (*p*=0.26)	19.102							
F-statistic	6.779				6.474			
Prob(F-statistic)	0.000				0.000			
Durbin-Watson stat	2.002				2.013			

Dependent variable: FRQ
Probability is significant at the 5% level
*Note: FRQ = financial reporting quality, IRP = integrated reporting practices, SDG = sustainable development goals, IRP*SDG = interaction between integrated reporting practices and sustainable development goal*
Source: Field data (2023)

Though GMM estimator is efficient at resolving endogeneity issues by employing instrumental variables, and presenting consistent estimates in the presence of heteroscedasticity, the effectiveness and consistency of GMM estimator depend on validity of the instruments. To ensure efficiency, the Sargan-Hansen test of over-identifying restrictions that the null hypothesis that all the instruments are exogenous and thus the instruments are valid was conducted. From the diagnostics displayed in Table 7, the p-value for the J-statistic was insignificant at the 0.05 level.

Therefore, the researcher failed to reject the null hypothesis that the instruments are valid. In addition, it was revealed that past FRQ, denoted as FRQ (-1) had a significant positive effect on present FRQ. The analysis has also shown that autocorrelation was not a problem in both models (DW = 2.002, 2.013). Considering these, it was appropriate to use GMM estimator to assess the relationships under study. The empirical analysis revealed that firm size, firm age and leverage, as covariates, have statistically significant influence on financial reporting quality of firms. Regarding the direction of their effects, all but firm size had a positive effect on financial reporting quality. These outcomes, to some extent, were expected. The succeeding sections consider the individual relationships between the independent variables and the key dependent variable.

Integrated reporting practices and financial reporting quality

The second objective sought to determine the effect of integrated reporting practices (IRP) on the financial reporting quality (FRQ) of listed firms. From the results reported in Table 7, it could be seen that IRP had a statistically significant positive effect on FRQ ($\beta = 1.338$, $t = 2.627$, $p < 0.05$). This implies that, all other things being equal, for every unit of IRP, FRQ improves by 1.338 units. As such, it can be inferred that integrated reporting exerts significant positive effect on the financial reporting quality of listed firms on the Ghana Stock Exchange. If a company implements integrated reporting practices, the financial reporting quality of the company will improve. This finding is consistent with IIRC's proposition that integrated reporting is the innovative solution to improving corporate reporting quality (IIRC, 2013), as well as Jhunjhunwala (2014) position that integrated reporting has a structure to report the financial and non-financial data and performance of a company in a more correct expression.

Considering the prior empirical studies reviewed, the present finding corroborates the findings of Agbentunde et al. (2020). Similar to the present finding, Agbentunde et al. (2020) reported that integrated reporting had a significant positive influence on the financial reporting quality of Nigerian listed firms albeit their study only focused on the fundamental qualitative characteristics. They concluded that reporting on the six capitals of integrated reporting framework positively induced the relevance and faithful representation quality of financial statements. Also, Vitolla and Raimo (2018) revealed that integrated reporting improved intra-company communications, enhanced stakeholder engagement activity and ensured higher quality of external reporting combined with greater readability of annual reports of General Group (the largest insurance group in Italy).

Nonetheless, few studies differ in their findings relative to the finding of this study. In this regard, Schütte et. al, (2017) revealed uncertainties regarding the ability of integrated reporting to improve the quality of information. This contrasting finding are not surprising as many factors could possibly influence their study. For instance, in the case of Schütte et. al,

(2017) the sample size could be a great influence as their study used only four listed firms. Also, the study extracted data from reports of the firms from 2012 to 2014. Given that the IIRC issued the integrated reporting framework in December 2013 to guide corporate integrated reporting practices, one could argue the inability of the few selected firms to consistently adopt integrated reporting during early stages.

Also, Donkor (2017) argued that accountants in Ghana had limited knowledge of integrated reporting. The study was an exploratory study that only interviewed accountants' perception without examining any potential effect on financial reporting quality. It is noteworthy that integrated reporting must be a desire of top-level management for it to be successful and not just the accountants and as such, the finding of Donkor (2017) might have been affected if consideration was given to top level management and not just accountants.

In all, it appears that findings related to the relationship between integrated reporting practices and financial reporting quality of firms have been mixed, and the present finding happened to support empirical findings that argue in favour integrated reporting positively influencing the financial reporting quality of firms. As posited by the legitimacy theory, the inference to be drawn was that listed firms on the Ghana Stock Exchange adopt integrated reporting practices to obtain legitimacy in the eyes of key stakeholders (Maama & Mkhize, 2020) and this quest has led to a significant positive improvement in the financial reporting quality of the firms.

Corporate SDG reporting and financial reporting quality

Objective three of the study sought to analyse the effect of corporate SDG reporting (SDG) on financial reporting quality (FRQ) of listed firms. It could be seen from the results reported in Table 7 that SDG had a statistically significant positive effect on FRQ ($\beta = 2.854$, $t = -3.417$, $p < 0.05$). This implies that, ceteris paribus, a unit increase in corporate SDG reporting will lead to a 2.854 unit improvement in FRQ. As such, one can infer that corporate SDG reporting exerts significant positive effect on the financial reporting quality of listed firms on the Ghana Stock Exchange. Thus, it could be argued that when a company makes disclosures concerning its contributions to SDGs in its annual reports, the financial reporting quality of the company will improve.

This finding accentuates the assertion of Adams (2017) that corporate SDG reporting has the potential to influence the financial reporting quality of firms embedding SDG reporting in their mainstream corporate reporting practices. It also supports the proposition of Tyagi (2021) that reporting on SDGs enables firms build trust among stakeholders through improved financial reporting quality among others. It further strengthens Carpentier and Rodriguez (2019) call for enhancing corporate SDG reporting on the assertion that corporate SDG reporting and disclosures can help government officials, businesses, and civil society understand the significant issues that must be overcome in order to achieve the SDGs by 2030. Hence, SDG reporting and disclosures should be integrated into mainstream corporate reporting practices.

Some studies in literature however reveal conflicting results to the above. Notable amongst them is findings of Izzo et.al. (2020). Izzo et.al studied the extent to which the voluntary disclosure of SDGs is diffused among Italian listed companies, and despite their study revealing tremendous growth and awareness in SDG reporting in corporate reporting practices, their study also revealed that corporate SDG reporting failed to provide insight about corporate performance, strategy and contributions to sustainable growth. This contrasting finding is not surprising as this study was carried outside Ghana, and possibly, factors and conditions present in the study locals might influence the findings as emphasized by Nechita et al. (2020) in their study of potential factors influencing quality of SDG reporting.

Integrated reporting practices, corporate SDG reporting, and financial reporting quality

The fourth objective of the study sought to analyse the moderating role of corporate SDG reporting (SDG) on the relationship between integrated reporting (IRP) and financial reporting quality (FRQ). From the results presented in Table 7, IRP*SDG had a statistically significant positive effect on FRQ ($\beta = 1.354$, $t = 2.319$, $p < 0.05$). This result implies that holding all other factors constant, for a unit increase in corporate SDG reporting, the effect of integrated reporting practices on financial reporting quality of listed firms, FRQ, will improve by 1.354 units. Consequently, corporate SDG reporting could be said to have a moderating influence on the relationship between integrated reporting practices and financial reporting quality of listed firms.

The above findings support the assertion of Adams (2017) that embedding SDG reporting into mainstream corporate reporting in a comprehensive manner can improve financial reporting quality and moderate relationship between integrated reporting and financial reporting quality of corporations. It also adds to submissions by Tyagi (2021) and Carpentier and Rodriguez (2019) on the benefits and role played by corporate SDG reporting. Further, it can be inferred that corporate SDG reporting and disclosure helps reinforce the relationship between integrated reporting and financial reporting quality and as such, listed firms should pay attention to SDG disclosures and reporting if they want high levels of financial reporting quality.

This revelation accentuates the assertion of UNCTAD (2016) on the pivotal role the private sector plays in the quest to attain the agenda 2030 for sustainable development and growth. Juxtaposing the above to happenings in the banking and manufacturing sector, earlier findings from Table 4 (Summary Statistics of Variables) of the study revealed surprisingly that, listed firms on the Ghana Stock Exchange made a little below average disclosures on their contributions to SDGs in their annual reports. Some firms in contrast to this finding made high disclosures on SDGs in their annual reports. This mixed empirical finding calls for improvement in corporate SDG reporting as finding from Table 7 revealed the moderating role corporate SDG plays on the relationship between integrated reporting and financial reporting quality.

Further, the above revelation expands the pathway to relationship between integrated reporting and financial reporting quality since corporate SDG reporting has been revealed as one of the influencing factors. It also supports the assertions of the stakeholder theory on the need to meet broad stakeholder information needs via numerous disclosures on sustainable development in annual reports of firms. Given the novelty of this study as no study has investigated the moderating role of corporate SDG reporting on relationship between integrated reporting and financial reporting quality of listed firms in Ghana, suggestions for further studies to be conducted a different context is submitted.

Summary of Hypotheses Tested, Results, Decision, and Conclusion

This section presents a summary of the null hypotheses tested, the outcomes, decisions, as well as the conclusions drawn. The summary of the tests is shown in Table 8.

Table 8: Summary of Hypotheses Tested, Results and Conclusions

Hypotheses	Results	Decision	Conclusions
1. *H_0: Integrated reporting practices have no significant effect on financial reporting quality of listed firms.*	$\beta = 1.338$ $p < 0.05$	Rejected	Statistically significant positive effect of IRP on FRQ.
2. *H_0: Corporate SDG reporting does not have any significant effect on financial reporting quality of listed firms.*	$\beta = 2.854$ $p < 0.05$	Rejected	Statistically significant positive effect SDG on FRQ.
3. *H_0: Corporate SDG reporting does not moderate the relationship between integrated reporting practices and financial reporting quality of listed firms.*	$\beta = 1.354$ $p < 0.05$	Rejected	Corporate SDG moderates the IRP-FRQ nexus.

Source: Field data (2023)

Chapter Summary

This chapter presented the results and discussion of the study. Both descriptive and inferential statistical tools were employed for data analysis. The findings showed that integrated reporting had significant positive effect financial reporting quality of Ghana Stock Exchange listed firms. Also, corporate SDG reporting had significant positive effect on financial reporting quality. Furthermore, corporate SDG reporting had significant positive moderating effect on the relationship between integrated reporting and financial reporting quality.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Introduction

This chapter summarises the study and presents the conclusions drawn from the analysis. Summary of key findings of the study are presented. Further, conclusions, recommendations, as well as suggestions for further studies are presented.

Summary of the Study

The purpose of this study was to examine the impact of integrated reporting practices on the financial reporting quality of firms listed on the Ghana Stock Exchange, and the moderating effect of corporate SDG reporting on this relationship. The call for an improvement in financial reporting quality of firms is ever increasing due to concerns and criticisms raised about the quality of corporate reporting quality. With reporting being viewed as a prominent tool for corporate governance to interact with its key stakeholders, discussions on the need for improved corporate reporting has heightened in recent years and the Ghanaian case is no exception. Integrated reporting has been advanced as the innovative solution to the call for improved financial reporting quality. The study thus sought out to investigate this phenomenon with specific objectives of:

1. investigating the adherence level of annual reports of listed firms to all three dimensions of the IIRC integrated reporting framework.
2. determining the effect of integrated reporting practices on the financial reporting quality of listed firms.

3. analysing the effect of corporate SDG reporting on the financial reporting quality of listed firms.
4. examining the moderating effect of corporate SDGs reporting on the relationship between integrated reporting and financial reporting quality of listed firms.

The study used 21 firms listed on the Ghana Stock Exchange. Data were extracted from the annual reports, for the period 2016 – 2020, of these firms. A total of 105 (21*5) observations were produced. An explanatory research design was employed. Data were analysed using descriptive statistics of frequency, percentage, mean, standard deviation, and inferential statistical tools of Pearson Product-moment correlation, and regression estimated by GMM.

Summary of Key Findings

1. A high level of adherence (57.14%) of annual reports to all three dimensions of the IIRC integrated reporting framework was found.
2. A significant positive effect of integrated reporting on financial reporting quality of listed firms was found.
3. It was revealed that corporate SDG reporting positively affect financial reporting quality of listed firms.
4. A statistically significant positive moderating effect of corporate SDG reporting on the relationship between integrated reporting and financial reporting quality of listed firms was found.

Conclusions

Overall, the study implied that for firms listed on the Ghana Stock Exchange to enhance their financial reporting quality, there would be the need to promote integrated reporting practices, as well as improve their corporate SDG reporting. More specifically, the study has emphasised the relevance of corporate SDG reporting to financial reporting quality, which has, so far, been given little attention as its link to reporting quality had been blurred. The study also established that if firms seek to strengthen the effectiveness of integrated reporting practices in driving financial reporting quality, they can draw on corporate SDG reporting.

Recommendations

From the findings and the conclusions drawn, the following recommendations could be taken into account. The Ghana Stock Exchange should consider making the publication of integrated reports mandatory for listed firms in Ghana, as done in other countries such as South Africa. This will enhance adherence to the integrated reporting framework as well as improve financial reporting quality of firms. Additionally, listed firms should employ professionally qualified accountants to prepare annual reports, as well as organise regular capacity building programmes for same, as this may translate into improved financial reporting quality. Finally, listed firms should establish corporate values and policies that increase awareness of the firms' role in SDG attainment, as this will enhance SDG reporting and subsequently financial reporting quality.

Suggestions for Further Research

Given the gaps in the literature that have been found and the limitations of this study, a number of potential research opportunities have been identified and could be explored for further insights into the factors influencing risk disclosure quality. First, the present study employed secondary panel data. This means the results produced were averages across the panel, and thus could not substantially describe what was happening in a given listed firm. Thus, it is suggested that future studies should consider using a given listed firm as a case study to provide greater insights of happenings in selected firm.

Also, the present study focused on only public listed banking and manufacturing firms. Given that literature related to the influence of integrated reporting on financial reporting quality of firms is scarce in Ghana, it is therefore suggested that further studies focus on private firms and other public listed firms not considered, and compare the findings to those obtained in the present study.

Last but not least, because the current study used secondary data (annual reports of chosen firms), a significant limitation is that the opinions of the people who prepare annual reports were not sought out, which would have provided useful information about the factors influencing firms' integrated reporting and SDG disclosure practises. It is advised that further research be done to gather primary information from those who create yearly reports in order to explain the rationale for their use of integrated reporting.

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APPENDICES

APPENDIX A

Listed Companies on the Ghana Stock Exchange (GSE)

	Symbol	Company	Date Listed
1	AADs	AngloGold Ashanti Depository Shares	04/27/2004
2	ACCESS	Access Bank Ghana Plc	12/21/2016
3	ADB	Agricultural Development Bank	12/12/2016
4	AGA	AngloGold Ashanti Limited	04/27/2004
5	ALW	Aluworks LTD	11/29/1996
6	BOPP	Benso Oil Palm Plantation Ltd	04/16/2004
7	CAL	CalBank PLC	11/05/2004
8	CLYD	Clydestone (Ghana) Limited	05/19/2004
9	CMLT	Camelot Ghana Ltd	09/17/1999
10	CPC	Cocoa Processing Company	02/14/2003
11	DASPHA RMA	Dannex Ayrton Starwin Plc.	01/02/2020
12	DIGICUT	Digicut Advertising and Production Limited	04/11/2018
13	EGH	Ecobank Ghana Ltd	07/01/2006
14	EGL	Enterprise Group PLC	02/21/1992
15	ETI	Ecobank Transnational Incorporation	09/11/2006
16	FML	Fan Milk Limited	10/18/1991
17	GCB	GCB Bank Plc	05/17/1996
18	GGBL	Guinness Ghana Breweries Plc	08/23/1991
19	GLD	NewGold Issuer Limited	08/23/1991
20	GOIL	Ghana Oil Company Limited	11/16/2007
21	GSR	Golden Star Resources Ltd.	02/15/2008

22	HORDS	HORDS LTD	07/28/2015
23	MAC	Mega African Capital Limited	04/23/2014
24	MMH	Meridian-Marshalls Holdings	01/01/2015
25	MTNGH	MTN Ghana	09/05/2018
26	PBC	Produce Buying Company Ltd.	05/17/2000
27	RBGH	Republic Bank (Ghana) PLC.	03/17/1995
28	SAMBA	Samba Foods Ltd	
29	SCB	Standard Chartered Bank Ghana Ltd.	08/23/1991
30	SCB PREF	Standard Chartered Bank Ghana PLC	08/23/1991
31	SIC	SIC Insurance Company Limited	01/25/2008
32	SOGEGH	Societe Generale Ghana Limited	10/13/1995
33	SWL	Sam Wood Ltd.	04/24/2002
34	TBL	Trust Bank Limited (THE GAMBIA)	11/15/2002
35	TLW	Tullow Oil Plc	07/27/2011
36	TOTAL	TOTAL PETROLEUM GHANA PLC	07/19/1991
37	UNIL	Unilever Ghana PLC	08/23/1991

Source: Adopted from the GSE official website (GSE, 2023)

APPENDIX B

INTEGRATED REPORTING PRACTICES (IRP) DISCLOSURE INDEX

ID	DESCRIPTION (DISCLOSURE ITEM)
CA	**CAPITALS**
CA1	**Financial Capital**
CA1.1	Any significant changes during the reporting period regarding the organisation's capital structure is disclosed.
CA1.2.	Description of the scale of organization by financial information
CA2	**Manufactured Capital**
CA2.1	Infrastructure related to the organization's operations is disclosed
CA2.2	Disclosure of machines and tools used within the organization
CA2.3	Description of the organization's size in terms of branches and offices.
CA3	**Intellectual Capital**
CA3.1	Disclosure of organization's Intellectual property
CA4	**Human Capital**
CA4.1	The scale of the organisation as per current employment information is disclosed
CA4.2	Disclosure(s) of board, management employees' training and education
CA4.3	Disclosure on corporate labour/management relations
CA4.4	Disclosure(s) on occupational health and safety
CA4.5	Description of diversity and opportunities for staff

CA4.6	Disclosure(s) on corporate human rights policies
CA4.7	Description of formal grievance mechanisms
CA5	**Social and Relationship Capital**
CA5.1	Description of an organisation's supply chain
CA5.2	Description of policies or mechanisms related to anti-corruption
CA5.3	Participation in any voluntary initiatives that apply to the organisation's economic, social and environmental performance
CA5.4	Stakeholder involvement in setting corporate economic, social and environmental policies is disclosed
CA5.5	Description of any policies and/or mechanisms related to participation in customers' protection
CA5.6	Description of any policies and/or mechanisms relating to anti-competitive behaviour
CA6	**Natural Capital**
CA6.1	disclosure of environmental management policies and practices
CA6.2	Disclosure on weight and volume of renewable or non-renewable materials consumed
CA6.3	Disclosure on energy consumption within the organisation
CA6.4	Disclosure on conservation of biodiversity and habitats
CA6.5	Disclosure(s) on greenhouse gas emissions (GHG) of the organisation
CE	**CONTENT ELEMENTS**
CE1	**Organisational Overview and External Environment**
CE1.1	Description of organisation's mission and vision statement
CE1.2	General explanations about organization culture, ethics, or

	values
CE1.3	Description of organisation's ownership and operating structure
CE1.4	Organisation's competitive landscape and market positioning
CE1.5	Description of the legitimate needs and interests of key stakeholders
CE1.6	Description of market forces
CE1.7	Description of the speed and effect of technological change
CE1.8	Description of related societal issues, such as population and demographic changes, human rights, health, poverty, collective values and educational systems
CE1.9	Disclosure(s) on environmental challenges
CE1.10	Description of the political environment
CE1.11	Description of market forces
CE2	**Governance**
CE2.1	Description of the organisation's leadership structure of those charged with governance
CE2.2	Disclosure on participation in specific processes used to make strategic decisions and to establish and to monitor the culture of the organisation
CE2.3	Particular actions taken by those charged with governance to influence and monitor the strategic direction of the organisation and its approach to risk management
CE2.4	Description of how the organisation's culture, ethics and values are reflected in its use of and effects on the capitals
CE2.5	Description of the influence of regulatory requirements on the

	organisation's governance practices
CE2.6	Description of governance responsibility for promoting and enabling innovation
CE2.7	Description of how remuneration and incentives are linked to value creation in the short, medium and long term
CE3	**Business Model**
CE3.1	Description of key inputs
CE3.2	Description of key business activities
CE3.3	Description of key outputs
CE3.4	Description of key outcomes
CE3.5	Explicit identification of the key elements of the business model
CE3.6	Narrative of the particular circumstances of the organisation
CE3.7	Identification of critical stakeholders, other dependencies and important factors affecting the external environment
CE3.8	Description of the connections between the business model and information covered by other content elements
CE4	**Risks and opportunities**
CE4.1	Description of key risks and opportunities that affect organisation's ability to create value over the short, medium and long-term
CE4.2	A statement of the specific source of risks and opportunities, which can be internal, external or, a mix of the two
CE4.3	Assessment of the likelihood of the risks and opportunities materialising
CE4.4	Participation in mitigating or managing key risks or creating

	value from key opportunities
CE5	**Strategy and resource allocation**
CE5.1	The organisation's short-, medium- and long-term strategic objectives is disclosed
CE5.2	Description of organisation's strategies to achieve those strategic objectives
CE5.3	Description of the resource allocation plans used to implement its strategy
CE5.4	Description of measuring achievements and target outcomes over time
CE6	**Performance**
CE6.1	Description of quantitative indicators related to targets and risks and opportunities
CE6.2	Description of influence of capitals within and outside of the organisation
CE6.3	Description of the dealings with key stakeholders
CE6.4	The linkages between past and current performance are disclosed
CE6.5	The linkages between current performance and the organization's future prospects are disclosed
CE6.6	Existence of KPIs to present linkages between financial performance and other performance
CE6.7	Description of influence of regulations on the organisation's performance
CE6.8	Existence of the KPIs that present financial measures

CE7	**Outlook**
CE7.1	Disclosure of expected changes over time
CE7.2	Description of potential implications over time
CE7.3	Description of sensitivities involved in forecasting forward-looking information
CE7.4	Regulatory requirements affecting organisation's outlook
CE8	**Basis of preparation and presentation**
CE8.1	A summary of the organisation's materiality determination process
CE8.2	Description of the reporting boundary
CE8.3	A summary of the significant frameworks and methods used to quantify or evaluate material matters
CE9	**General reporting guidance**
CE9.1	Disclosure of material matters
CE9.2	Disclosure about capitals
CE9.3	Time frames for short, medium and long-term
CE9.4	Presenting information in an aggregation or a disaggregation
GP	**GUIDING PRINCIPLES**
GP1	**Strategic focus and future orientation**
GP1.1	Description of the organisation's strategic plan
GP1.2	A statement on how the governance body takes into consideration the influence of the aforementioned information (awarded under GP1.1) over different time periods
GP1.3	Description of how an organisation achieves its strategic objectives

GP2	**Connectivity of information**
GP2.1	Description of connectivity of information
GP3	**Stakeholder relationship**
GP3.1	Description of the nature of the organization's relationship with its key stakeholders
GP3.2	Disclosure on stakeholder engagement in the organisation's activities
GP3.3	Disclosure on the processes taken to discharge accountability and transparency
GP4	**Materiality**
GP4.1	Description of the materiality determination process
GP4.2	Description of the reporting boundary
GP5	**Conciseness**
GP5.1	Concise presentation of information in a logical manner, using plain language and making links between information.
GP6	**Reliability and completeness**
GP6.1	Presentation of information in a manner that exemplifies the reliability of it
GP6.2	Presentation of information in a manner that exemplifies the completeness of it
GP7	**Consistency and comparability**
GP7.1	Presentation of information in a consistent manner
GP7.2	Presentation of information in a comparable manner

Source: Adapted from Lui et.al., (2019)

APPENDIX C

FINANCIAL REPORTING QUALITY INDEX

Qualitative characteristics	Item(s)	Question	Operationalization
Relevance			
R1 Concept: Predictive value	The annual reports disclose forward-looking information	To what extent does the presence of the forward-looking statement help forming expectations and predictions concerning the future of the company?	1 = No forward -looking information 2 = Forward-looking information not an apart subsection 3 = apart subsection 4 = extensive predictions 5 = extensive predictions useful for making expectation
R2 Concept: Predictive value	The annual reports disclose information in terms of business opportunities and risks	To what extent does the presence of non-financial information in terms of business opportunities and risks complement the financial information?	1 = No non-financial information 2 = little non-financial information, no useful for forming expectations 3 = useful non-financial information, 4 = useful non-financial information, helpful for developing expectations 5 = non-financial information presents additional information which helps developing expectations.
R3 Concept: Predictive value	The company uses fair value as measurement basis	To what extent does the company use fair value instead of historical cost	1 = only HC 2 = most HC 3 = balance FV/ HC 4 = most FV 5 = only FV

R4 Concept: Confirmatory value	The annual reports provides feedback information on how various market events and significant transactions affected the company	To what extent do the reported results provide feedback to users of the annual report as to how various market events and significant transactions affected the company?	1 = no feedback 2 = little feedback on the past 3 = feedback is present 4 = feedback helps understanding how events and transactions influenced the company 5 = comprehensive feedback
Faithful Representation			
F1 Concept: Verifiability	The annual report explains the assumptions and estimates made clearly	To what extent are valid arguments provided to support the decision for certain assumptions and estimates in the annual report?	1 = only described estimations 2 = General explanations 3 = specific explanation of estimations 4 = specific explanation, formulas explained etc. 5 = comprehensive argumentation
F2 Concept: Verification	The annual report explains the choice of accounting principles clearly	To what extent does the company base its choice for certain accounting principles on valid arguments	1 = changes not explained 2 = minimum explanation 3 = explained why 4 = explained why + consequences 5 = no changes or comprehensive explanation
F3 Concept: Neutrality	The annual report highlights the positive and negative events in a balanced way	To what extent does the company, in the discussion of the annual results, highlight the positive events as well as the	1 = negative events only mentioned in footnotes 2 = emphasize on positive events 3 = emphasize on positive events, but negative events are mentioned; no negative events occurred

	when discussing the annual results	negative events?	4 = balance pos/neg events 5 = impact of pos/neg events is also explained
F4 Concept: Free from material error, verification, neutrality, and completeness	The annual report includes an unqualified auditor's report	Which type of auditor's report is included in the annual report?	1 = adverse opinion 2 = disclaimer of opinion 3 = qualified opinion 4 = unqualified opinion: financial figures 5 = unqualified opinion: financial figures + internal control
F5 Concept: Completeness, verifiability, and free from material error Understandability	The annual report extensively discloses information on corporate governance issues	To what extent does the company provide information on corporate governance?	1 = no description CG 2 = information on CG limited, not in apart subsection 3 = apart subsection 4 = extra attention paid to information concerning CG 5 = comprehensive description of CG
U1 Concept: Understandability	The annual report is well organized	To what extent is the annual report presented in a well organized manner?	Judgement based on: - complete table of contents - headings - order of components - summary/ conclusion at the end of each subsection
U2 Concept:	The notes to the balance sheet and income statement	To what extent are the notes to the balance sheet and the income statement	1 = no explanation 2 = very short description, difficult to understand 3 = explanation that describes what happens

Understandability	are clear	sufficiently clear?	4 = terms are explained (which assumptions etc) 5 = everything that might be difficult to understand is explained
U3 Concept: Understandability	Graphs, tables, and charts clarify the information presented	To what extent does the presence of graphs, tables and charts clarifies the presented information?	1 = no graphs/ tables/charts 2 = 1-5 graphs/ tables/charts 3 = 6-10 graphs/ tables/charts 4 = 11-15 graphs/ tables/charts 5 = >15 graphs/ tables/charts
U4 Concept: Understandability	The use of language and technical jargon is easy to follow in the annual report	To what extent is the use of language and technical jargon in the annual report easy to follow?	1 = much jargon (industry), not explained 2 = much jargon, minimal explanation 3 = jargon is explained in text/glossary 4 = not much jargon, or well explained 5 = no jargon, or extraordinary explanation
U5 Concept: Understandability	The annual report included a comprehensive glossary	What is the size of the glossary?	1 = No glossary 2 = less than 1 page 3 = approximately one page 4 = 1-2 pages 5 = > 2 pages
Comparability			
C1 Concept: Consistency	The notes to changes in accounting policies explain the implications of the change	To what extent do the notes to changes in accounting policies explain the implications of the change?	1 = changes not explained 2 = minimum explanation 3 = explained why 4 = explained why + consequences 5 = no changes or comprehensive explanation
C2 Concept:	The notes to revisions in accounting	To what extent do the notes to revisions in accounting estimates and judgements	1 = Revision without notes 2 = revision with few notes 3 = no revision/clear notes

Consistency	estimates and judgements explain the implications of the revision	explain the implications of the revision?	4 = clear notes + implications (past) 5 = comprehensive notes
C3 Concept: Consistency	The company's previous accounting period's figures are adjusted for the effect of the implementation of a change in accounting policy or revisions in accounting estimates	To what extent did the company adjust previous accounting period's figures, for the effect of the implementation of a change in accounting policy or revisions in accounting estimates?	1 = no adjustments 2 = described adjustments 3 = actual adjustments (one year) 4 = 2 years 5 = > 2 years + notes
C4 Concept: Consistency	The results of current accounting period are compared with results in previous accounting periods	To what extent does the company provide a comparison of the results of current accounting period with previous accounting periods?	1 = no comparison 2 = only with previous year 3 = past 5 years 4 = 5 years + description of implications 5 = 10 years + description of implications
C5 Concept: Comparability	Information in the annual report is comparable to information provided by other	To what extent is the information in the annual report comparable to information provided by other organizations?	Judgement based on: - accounting policies - structure - explanation of events In other words: an overall conclusion of

	organizations		comparability compared to annual reports of other organizations
C6 Comparability	The annual report presents financial index numbers and ratios	To what extent does the company presents financial index numbers and ratios in the annual report?	1 = no ratios 2 = 0-5 ratios 3 = 6-10 ratios 4 = 11-15 ratios 5 = > 15 ratios
Timeliness			
T1 Concept: Timeliness	Natural logarithm of amount of days it took for the auditor signed the auditor's report after book-year end	How many days did it take for the auditor to sign the auditors' report after book-year end?	Natural logarithm of amount of days 1 = 1-1.99 2 = 2-2.99 3 = 3-3.99 4 = 4-4.99 5 = 5-5.99

Source: Adapted from the Beest et.al., (2009)

APPENDIX D

CORPORATE SDG REPORTING INDEX

Category	SDG	Target	Item	Operationalization
Social				
S1	9	9.5: enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and substantially increasing the number of research and development workers per one million people and public and private research and development spending	S1: Expenditure on research and development as a proportion of turnover	1 = where no disclosure on research and development expenditure is made in annual report 2 = where proportion is less than 10% 3 = where proportion is greater than 10% but less 20% 4 = where proportion is greater than 20% but less than 50% 5 = where proportion is 50% and above.
Social S2	5	5.5: ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life	S2: Total Proportion of women in board and managerial position	1= where proportion of women is less than 10% 2 = where proportion of women is between greater than 10% but less than 20% 3 = Where proportion of women is greater than 20% but less than 30% 4 = where proportion of women is greater than 30% but less than 50%

				5 = where proportion of women is 50% and above.
Social S3	8	8.5: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	S3: Total workforce, with breakdown by employment type, contract and gender	1 = no disclosure is made in annual reports 2 = little disclosures are made in annual reports (not in an apart subsection) 3 = apart subsection 4 = inclusion of recruitment, training, remuneration and motivation strategies 5 = comprehensive information linking employee relations strategies and productivity as well as future diversity and opportunities for employees
Social S4	3	3.8: achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all	S5: disclosure on employee health and safety policies and regulations	1 = no disclosure is made in annual reports 2 = limited disclosure is made in annual reports (not in an apart subsection) 3 = apart subsection 4 = extensive linkages with employee performance 5 = comprehensive linkages with SDG 3 attainment
Institutional				
I1	16	16.7: ensure responsive, inclusive, participatory and representative decision-making at all levels	I1: number of board meetings and attendance rate	0 = if no disclosures are made in annual report 1 = if disclosures are made and attendance rate of any board member is

				less than 50% 2 = if disclosures are made and attendance rate of any member is more than 50%
I2:	16	16.6: develop effective, accountable and transparent institutions at all levels	I2: existence of audit committee, number of meetings and attendance rate	0 = if audit committee does not exist or no disclosure is made 1 = if audit committee exist and meeting attendance rate of members is less than 50% 2 = if audit committee exist and meeting attendance rate of all members is more than 50%
Environmental				
E1	12	12.6: Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle	E1: inclusion of corporate sustainability report in annual reports	1 = no corporate sustainability information is included in annual reports 2 = information on corporate sustainability is limited, not in apart subsection 3 = information on sustainability is in an apart subsection 4 = extra attention is paid to CSR 5 = alignment with SDGs in annual reports
E2	9	9.4: by 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased	E2: Annual growth rate of investment in non-current assets.	1 = where growth rate is negative 2 = where growth rate is less than 10% 3 = where growth rate is greater than 10% but less than 20%

		resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities		4 = where growth rate is greater than 20% but less than 50% 5 = where growth rate is 50% and above
E3	12	12.5: by 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse	E3: disclosures on corporate environmental waste management policies (ESG) to achieve greener environment	1 = no disclosure is made in annual reports 2 = little information on corporate ESG policies is made in annual reports 3 = apart subsection (only positive impacts mentioned) 4 = both positive and negative impacts of corporate ESG policies are disclosed 5 = potential impacts of corporate ESG policies are evaluated
Economic				
A1:	8	8.2: achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high value added and labor-intensive sector	A1: Annual growth rate in net profit	1 = where growth rate is negative 2 = where growth rate is less than 10% 3 = where growth rate is greater than 10% but less than 20% 4 = where growth rate is greater than 20% but less than 50% 5 = where growth rate is 50% and above
A2:	17	17.1: strengthen domestic resource mobilization, including through international	A2: Total tax expenses and other payments to government as a	1 = less than 10% 2 = greater than 10% but less than 20% 3 = greater than 20% but less than 30%

		support to developing countries, to improve domestic capacity for tax and other revenue collection	proportion of net profit before tax	4 = greater than 30% but less than 50% 5 = 50% and above
A3:	9	9.3: Increase the access of small-scale industrial and other enterprises, in particular in developing countries, to financial services, including affordable credit, and their integration into value chains and markets	A3: description of corporate value chain	1 = no disclosure is made in annual reports 2 = limited disclosure is made in annual reports (not in an apart subsection) 3 = apart subsection 4 = explanations on linkages with firm financial performance 5 = evaluation of future effects on firm performance and profitability
A4:	1	1.b: create sound policy frameworks at the national, regional and international levels, based on pro-poor and gender-sensitive development strategies, to support accelerated investment in poverty eradication actions	A4: disclosures on community investments (including donations to community projects made by company)	1 = no disclosure is made in annual reports 2 = limited disclosure is made in annual reports (not in an apart subsection) 3 = apart subsection 4 = key explanations of needs and implications of investments or donations including financial effects. 5 = comprehensive linkages with SDGs

Source: Adapted from UNCTAD (2015) list of core indicators for corporate SDG reporting